

DIAGNOSTIC RADIOACTIVE TRACERLOG

**Hoechst Celanese Chemical Group, Inc.
Waste Disposal Well #32
Bay City Plant
Matagorda County, Texas**

**Prepared for
ECO Solutions, Inc.
Houston, Texas**

**WESTERN ATLAS LOGGING SERVICES
WESTERN ATLAS INTERNATIONAL**

October 26, 1995

Prepared by Freeman Hill, III

DISCLAIMER

In making interpretations of logs, our employees will give Customer the benefit of their best judgement, but since all interpretations are opinions based on inferences from electrical or other measurements, we cannot, and we do not guarantee the accuracy or the correctness of any interpretation. We shall not be liable or responsible for any loss, cost, damages, or expenses whatsoever incurred or sustained by the Customer resulting from any interpretation made/by any of our employees.

Disposal Well Background

The Hoechst Celanese Chemical Group, Inc.'s waste disposal well #32, located at the Bay City facility has been used for underground injection of waste fluids. In addition to surface casing, the well contains a string of 9 5/8 inch O.D. casing cemented from surface to 3,192 ft. From 3,306 to 3,368 ft. this casing is composed of stainless steel. Five and a half inch pipe (5 1/2 inch) is within the 9 5/8" casing, and is from surface to 3,316 ft. Also, 2 3/8" tubing is tied into a packer and injection assembly. Measured depth were at 3,240 ft.

A logging program consisting of a Radioactive Tracerlog (ejector and two detector instrument), was used to evaluate the integrity of the casing and cement. This should also verify that the injection interval is accepting the disposed fluids.

Radioactive Tracerlog Survey

1. Logged base gamma ray detector pass from 3,240 ft. to 2,893 ft.

Purpose: Base-line for radioactive tracer instrument and comparison for post survey.

Analysis: Gamma ray instruments respond to naturally occurring and manmade radiation. For this logging run, we will only consider the naturally occurring radiation (e.g., potassium, uranium, and thorium) found in formations. Normally, shaly formations tend to contain more of these gamma ray producing elements than a sand formation.

2. Repeat step (1.) Base gamma ray pass from 3,244 ft. depth to 3,096 ft.

Analysis: No anomalies noted.

3. Statistical stationary check. (5 minute)(3,172 ft)

Purpose: To establish stability of instrumentation before proceeding with testing.

Analysis: No anomalies found. Tool operating properly and stable.

4. Repeat step (3.) Statistical stationary check. (7.5 minute)(3,351 ft.)

Analysis: Tool operating properly and stable.

5. While injecting into the well at a rate of 50 gpm, radioactive material (Iodine-131) was ejected from the radioactive tracer instrument (@ 2,900 ft.). The instrument was lowered further into the well and then logged in the upward direction in order to intercept

**Radioactive Tracerlog Survey (Cont.)
Hoechst Celanese Chemical Group, Inc.**

radioactive slug as it moved down the well. By repeating this process of lowering the instrument and logging in the upward direction, the radioactive slug was traced through the casing packer and into the injection interval located below.

Purpose: Ensure injected fluids move through the tubing in a downward direction and that no upward or out of zone fluid movement through a cement channel is detected.

Analysis: The following table depicts the depths where the detectors intercepted the radioactive slug as it moved with the surface-injected fluids downward toward the injection interval.

Interception Number	Depth, ft.(Bottom Detector) (BDET)
1	3,038
2	3,189
3	Dispersing in zone.

The radiation peak responses from the first pass to the third pass, become smaller, but cover a longer vertical interval, due to the movement of the wireline and instrument mixing the radioactive slug with the injected fluids. No anomalies seen.

6. Repeat step (5.) (50 gpm)

Analysis: The following table depicts the depths where the detector intercepted the second radioactive slug as it moved with the injected fluids downward toward the injection interval.

Interception Number	Depth, ft.(Bottom Detector) (BDET)
1	2,931
2	3,047 (Did not catch all of the peak with instrument)
3	3,206
4	Dispersing in zone.

Radioactive Tracerlog Survey (Cont.)

Hoechst Celanese Chemical Group, Inc.

The radioactive peak responses from the first to the 4th pass, become smaller, but cover a longer vertical interval, due to the movement of the wireline and instrument mixing the radioactive slug with the injected fluids. The radioactive material appears to continually move in the downward direction and into the disposal interval. There is no evidence of any problems.

7. The tool was stationed at 3,172 ft., above the disposal interval, for a stationary reading. The radioactive isotope is released and after the initial response to the isotope passing by the detector in a downward motion, then the isotope or an increase in radiation, should not be monitored again. If the isotope is seen again, then communication (channel behind the pipe) is highly possible.

Purpose: Ensure injected fluids move downward and not back up on the outside of casing in a channel. (Pump rate 50 gpm) (21 minute test.)

Analysis: After initial response to the radioactive slug, the isotope did not come back in the tool's vicinity. No channel indicated.

8. Repeat step (7.) (Pump rate = 50 gpm) (21 minute test.)

Purpose: Ensure injected fluids are not channeling up.

Analysis: After the initial response to the radioactive slug, the isotope did not come back in the tool's vicinity. No channel indicated.

9. Logged gamma ray detectors from 3,230 ft. to 2,896 ft.

Purpose: Monitor any anomalies or changes in background baseline.

Analysis: No anomalies found.

Conclusion:

In my opinion, the Hoechst Celanese Waste Disposal Well #32, located in the Bay City Plant, does not have any integrity problems that would result in disposed fluids migrating to intervals other than the injection interval. The logging program consisting of a radioactive tracer ejector and detector instrument should satisfy the annual mechanical integrity requirement.

ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

APPENDIX B

**ANNULUS PRESSURE TEST
DATA AND PLOT**

ANNULUS PRESSURE DATA
HOECHST CELANESE CHEMICAL GROUP, INC.

Bay City Plant

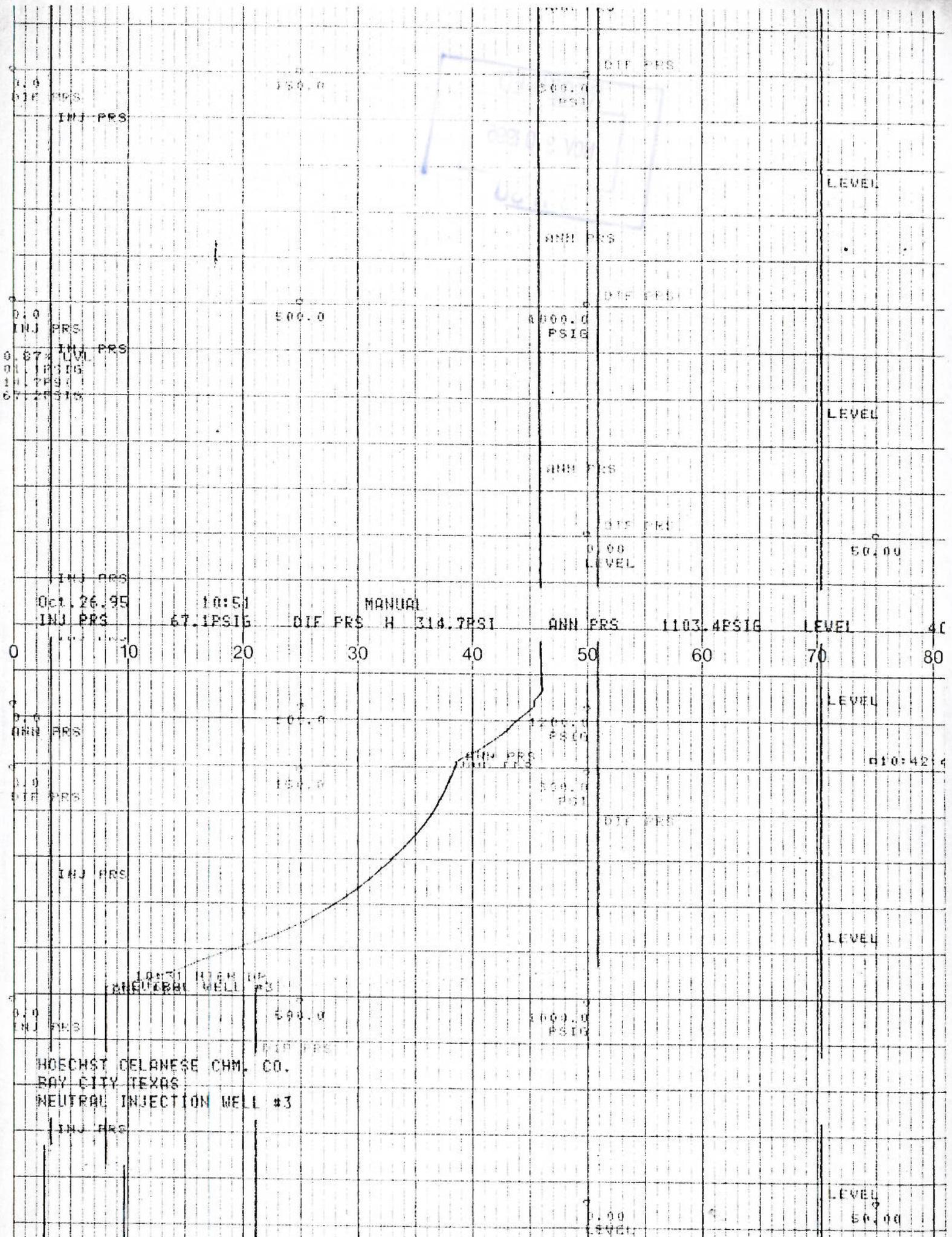
Waste Disposal Well 32 (Plant Well No. 3)

October 26, 1995

<u>Time</u> (am)	<u>Tubing Pressure</u> (psig)	<u>Casing Pressure</u> (psig)	<u>Remarks</u>
9:49	67	200	Well shut-in +/-24 hours
10:00	67	200	Rig up to perform APT
10:30	67	200	Prepare to pressure up
10:33	67	200	Start pressuring up
10:34	67	330	Pressurize well
10:36	67	450	
10:38	67	650	
10:40	67	750	
10:42	67	850	
10:44	67	900	
10:40	67	980	
10:51	67	1100	
10:53	67	1109	
10:55	67	1107	
11:00	67	1105	Start APT
11:05	67	1104.5	
11:10	67	1104	
11:10	67	1103	
11:20	67	1103	
11:25	67	1102.5	
11:30	67	1102	
11:35	67	1102	
11:40	67	1101.5	
11:45	67	1101.5	
11:50	67	1101	
11:55	67	1100.5	
12:00 PM	67	1100.5	End APT
12:05	67	1100.5	
12:10	67	1100.5	
12:15	67	1100.5	
12:20	67	900	Bled off pressure
12:25	67	177	Shut-in well

Pressure was measured using HCCG's certified calibrated pressure instrument, a portable digital Eaton Pressure Sensor, Type UPC BACB, Serial No. A1258, with optional ranges from zero to 400 psig, zero to 1,000 psig and zero to 2000 psig and was installed onto the annulus outlet. Note: The zero to 2000 psig range was utilized for this test. A certificate of calibration, included in Appendix C, shows that the pressure sensor was calibrated on December 6, 1994.

HCCG's facility digital transmitter pressure/flow rate and other parameters recorder normally has a pressure range from zero to 1000 psig. However, for the APT the range was modified by Mr. Wilson Cupples and Mr. Ray Horton to a range of zero to 1200 psig. A copy of the computer run (included in Appendix C) shows that the annulus transmitter and recorder were calibrated as an "End to End" unit on August 18, 1995. Also, the same calibration standard was used on both the Eaton Pressure Sensor and the facility digital transmitter pressure recorder.



03:10

0.0
DIF PRS
INJ PRS

150.0

500.0
PSI

DIF PRS

LEVEL

0.0
INJ PRS
0.874 LVL
01.18 PSIG
14.7490
67.25310

500.0

1000.0
PSIG

DIF PRS

LEVEL

Oct. 26.95
INJ PRS

10:51
67.1PSIG

MANUAL
DIF PRS H 314.7PSI

ANN PRS 1103.4PSIG

LEVEL 40

0 10 20 30 40 50 60 70 80

0.0
ANN PRS

1000.0

1000.0
PSIG

LEVEL

0.0
DIF PRS

150.0

500.0
PSI

DIF PRS

10:42

INJ PRS

LEVEL

10:51 HIGH PS
NEUTRAL WELL #3

0.0
INJ PRS

500.0

1000.0
PSIG

HOECHST DELANESE CHEM. CO.
RAY CITY TEXAS
NEUTRAL INJECTION WELL #3

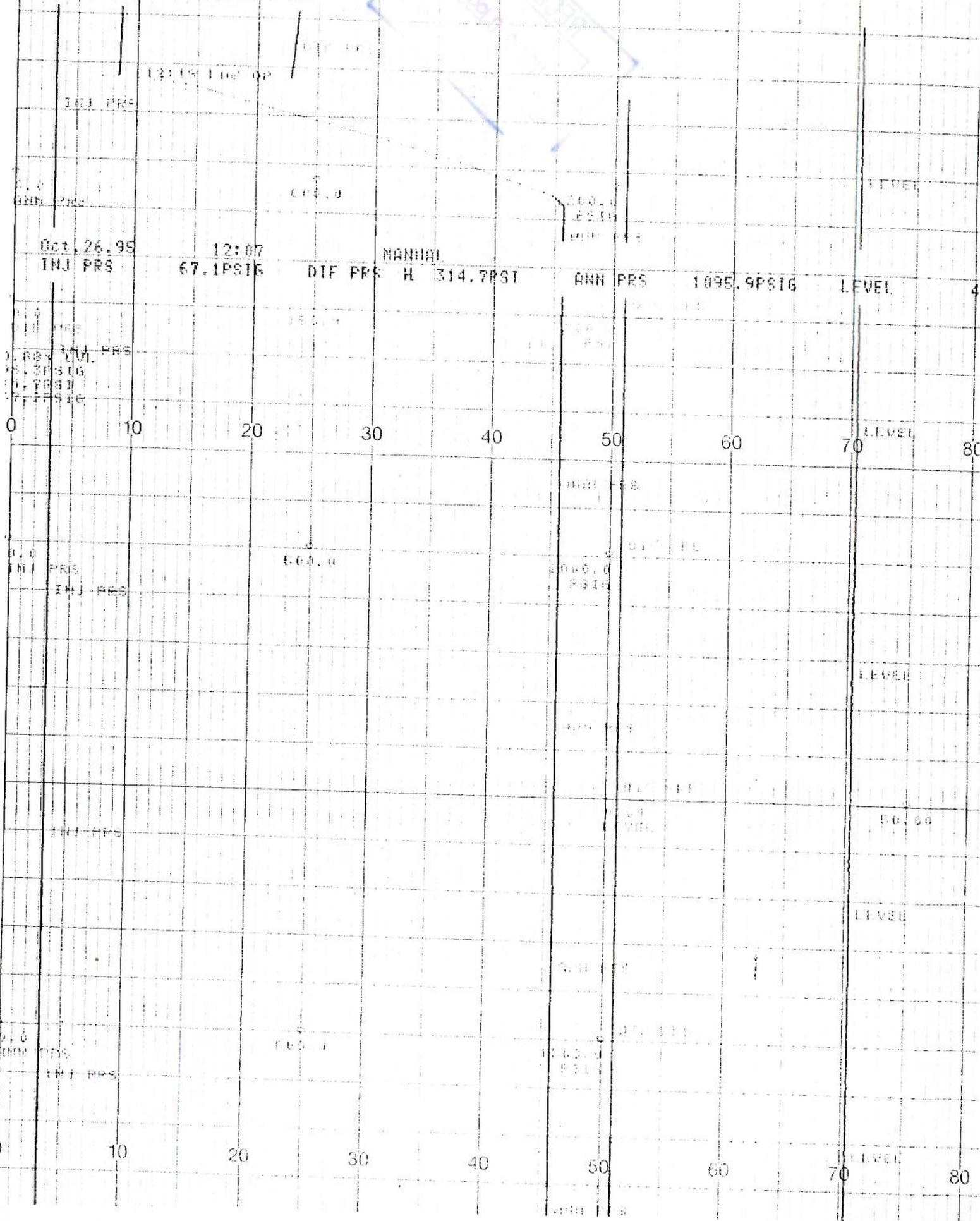
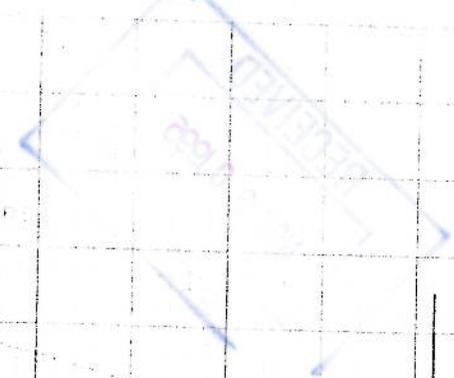
INJ PRS

LEVEL

0.00
LEVEL

50.00

HOECHST CELANESE CHM. CO.
 BAY CITY TEXAS
 NEUTRAL INJECTION WELL #3



Oct. 26. 99
 INJ PRS

12:07
 67.1PSIG

NANNAI
 DIF PRS H 314.7PSI

ANN PRS 1095.9PSIG

LEVEL

INJ PRS
 71.3PSIG
 70.7PSIG
 70.7PSIG

0 10 20 30 40 50 60 70 80

INJ PRS
 50.0

ANN PRS
 1095.9 PSIG

LEVEL

50.00

LEVEL

INJ PRS
 50.0

ANN PRS
 1095.9 PSIG

LEVEL

0 10 20 30 40 50 60 70 80

ANN PRS

ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

APPENDIX C

CALIBRATION CERTIFICATES

TIME: 12:02:41
DATE: 09/23/95

CALLERATED QUALITY EQUIPMENT
HOECHST CELLULOSE CHEMICAL CO

BAY CITY PLANT

PAGE NO 1 OF 3

STATE INSTRUMENTS

ARBA	UNIT	NAME	INST ID	SERVICE:	CTRL	MECH	FREQ	PRV	INSP	LAST	INSP	DUE	COMMENTS
1	303	UTILITIES	FC-928 -001	WELL INJECTION FLOW	1	WC	3	06/22/94	08/28/95	NO			
1	303	UTILITIES	FR-929 -001	WELL PRESSURE	1	WC	3	06/22/94	08/24/95	NO			
2	303	UTILITIES	FT-3956 -001	NEUTRAL WELL / LOW RANGE	1	WC	3	06/21/94	08/28/95	NO			
2	303	UTILITIES	FT-3956 -002	NEUTRAL WELL / HIGH RANGE	1	WC	3	06/21/94	09/28/95	NO			
1	303	UTILITIES	FR-7363 -001	WELL ANNULUS PRESSURE	2	WC	3	06/22/94	08/28/95	NO			
1	303	UTILITIES	DPR-7373 -001	ANNULUS WELL HEAD DIFF PRESS	2	WC	3	06/22/94	08/28/95	NO			
1	303	UTILITIES	FR-7374 -001	BOILER FEED WATER FLOW TO WELL	2	WC	3	06/22/94	08/28/95	NO			

TOTAL RECORDS FOR # 1 WELL CR-1 IS 7

ARBA	UNIT	NAME	INST ID	SERVICE:	CTRL	MECH	FREQ	PRV	INSP	LAST	INSP	DUE	COMMENTS
2	303	UTILITIES	PT-3521 -001	WELL INJECTION PRESSURE	1	WC	3	06/03/94	08/18/95	NO			
2	303	UTILITIES	PT-3522 -001	ANNULUS TO WELL HEAD DI	1	WC	3	06/03/94	08/18/95	NO			
2	303	UTILITIES	PT-3523 -001	ANNULUS PRESSURE	1	WC	3	06/03/94	08/04/95	NO			
2	303	UTILITIES	LI-3524 -001	WELL BRINE LEVEL V-1256	WC	3	/	/	08/31/95	NO			
2	303	UTILITIES	FR-3965 -001	WELL PRESSURE	1	WC	3	06/20/94	08/18/95	NO			

TOTAL RECORDS FOR # 2 WELL IS 5

AREA	UNIT	NAME	INST ID	SERVICE:	CNTRL	MUCH	FRSQ	PREV	IMPS	LST	INSP	DUR	COMMENTS
# 3 WELL													
2	303	UTILITIES	PT-261 -001	WELL FLOW / LOW RANGE	1	WC	3	06/22/94	08/28/95	NO			
2	303	UTILITIES	PT-261 -002	WELL FLOW / HIGH RANGE	1	WC	3	06/22/94	08/28/95	NO			
2	303	UTILITIES	PR-267 -001	WELL PRESSURE	1	WC	3	04/30/93	08/28/95	NO			
2	303	UTILITIES	PR-3526 -001	WELL INJECTION	1	WC	3	06/06/94	08/18/95	NO			
2	303	UTILITIES	PR-3527 -001	WELL DIFFERENTIAL PRESSURE	1	WC	3	06/06/94	08/18/95	NO			
2	303	UTILITIES	PR-3528 -001	WELL ANNULUS	1	WC	3	06/06/94	08/18/95	NO			
2	303	UTILITIES	LI-3529 -001	WELL BRINE LEVEL V-1257	1	WC	3	/ /	08/31/95	NO			

TOTAL RECORDS FOR # 3 WELL IS 7

# 4 WELL													
2	303	UTILITIES	PT-358 -001	WELL FLOW / LOW RANGE	1	WC	3	06/21/94	08/28/95	NO			
2	303	UTILITIES	PT-358 -002	WELL FLOW / HIGH RANGE	1	WC	3	06/21/94	08/18/95	NO			
2	303	UTILITIES	PR-359 -001	WELL PRESSURE	1	WC	3	06/21/94	08/28/95	NO			
2	303	UTILITIES	PR-3531 -001	WELL	1	WC	3	06/09/94	08/18/95	NO			
2	303	UTILITIES	PR-3532 -001	WELL	1	WC	3	06/09/94	08/18/95	NO			
2	303	UTILITIES	PT-3533 -001	WELL ANNULUS PRESSURE	1	WC	3	06/09/94	08/18/95	NO			
2	303	UTILITIES	LX-3534 -001	WELL BRINE LEVEL V-1258	1	WC	3	/ /	08/31/95	NO			

TOTAL RECORDS FOR # 4 WELL IS 7

PLANT OUTFALL (FLUME)													
2	303	UTILITIES	PR-7382 -001	PLANT OUTFALL (FLUME)	1	WC	3	06/22/94	08/08/95	NO			

TOTAL INSTRUMENTS TO END OF THIS PAGE IS 27

PAGE NO 1 OF 3

COMMENTS

DOIS

LAST INSP

PRVY INPS

FREQ

MSCK

CTRL

SERVICE:

INST ID

NAME

UNIT

TOTAL RECORDS FOR PLANI QUTYALL IS 1

Consolidated Controls



Eaton Corporation
Pressure Sensors Division
15 Durant Avenue
Bethel, Connecticut 06801
(203) 796-6000 • (203) 743-6721

CERTIFICATION OF CALIBRATION

Type UPC 5000 BACB Digital Indicator
Serial No. A1258 Range 400 / 1000 / 2000 PSI
P.O. 001A009 Date 12/06/94

NIST 249770-92; 250722-92; 246108-90

THIS IS TO CERTIFY THAT THE INSTRUMENT IDENTIFIED ABOVE HAS BEEN CALIBRATED AGAINST STANDARDS MAINTAINED BY CONSOLIDATED CONTROLS CORPORATION. THE ACCURACY OF THESE STANDARDS IS DIRECTLY TRACEABLE TO THE NATIONAL STANDARDS AT THE NATIONAL BUREAU OF STANDARDS.

THE INSTRUMENT PERFORMS SATISFACTORILY AND ITS ACCURACY IS WITHIN $\pm 0.05\%$ F.S. AS ORIGINALLY SPECIFIED. CALIBRATION WAS PERFORMED AT A TEMPERATURE OF 70 °F.

Certified By *Bob Bobb*
CONSOLIDATED CONTROLS

FORM 1.0

MIT

~~QUALITY~~ INSTRUMENTS CALIBRATION FORM
 HOECHST CELANESE
 BAY CITY PLANT

QUALITY INSTRUMENTS

LOOP NO: _____ UNIT: _____
 INSTRUMENT DESCRIPTION: 0-100% Strip Recorder SR# 38308
 INSTRUMENT RANGE: ZERO 0 MA SPAN: 20 mA
 MANUFACTURER: Linear Inst. Co MODEL: 155/E1
 CALIBRATION SOP: Manufacturers CALIBRATION FREQUENCY: When Used
 PRIMARY STANDARD USED: Transmation mod. #1090 I&E # 00095
 SECONDARY STANDARD USED: Fluke I&E # 35
 COMMENTS: _____

% OF SPAN	0%	25%	50%	75%	100%	UNITS
INPUT	0	8	12	16	20	MA
OUTPUT DESIRED	0	25	50	75	100	%
OUTPUT AS FOUND	0	25	50	75	100	%
OUTPUT AS LEFT	0	25	50	75	100	%
ERROR AS FOUND	0	0	0	0	0	%

IN TOLERANCE OUT OF TOLERANCE

FILL OUT INSTRUMENT NOTIFICATION LOG SHEET ACCORDING TO OPERATION'S GUIDELINES IN THE UNITS QUALITY MANUAL.

CRAFTPERSON: K Mullers DATE: 1-16-95
 I & E SUPERVISOR: B Campbell DATE: 1-16-95
 I & E PM PLANNER/
 COORDINATOR: _____ DATE: _____

PREPARED BY: ALVIN W. KOCUREK
 APPROVED BY: Don H. Matthews
 DATE: 2-21-94

GAUGE S/N: 78613
DIAPHRAGM NUMBER: 7133014
RANGE: 10000
DATE CALIBRATED: 2/10/94
GAUGE TYPE: EP8-520

*** TEMPERATURE SUMMARY ***

MAXIMUM POSITIVE ERROR:	0.592 Deg F
MAXIMUM NEGATIVE ERROR:	-0.352 Deg F
MAXIMUM ERROR SPECIFICATION:	3.000 Deg F
NUMBER OF POINTS EXCEEDING ERROR SPEC.:	0
SENSITIVITY:	0.083 Deg F/Hz
SENSITIVITY:	11.992 Hz/Deg F

*** PRESSURE SUMMARY ***

MAXIMUM POSITIVE ERROR:	1.186 PSIA
OCCURS AT:	249.752 Deg F
AND AT:	2015.886 PSIA
MAXIMUM NEGATIVE ERROR:	-1.416 PSIA
OCCURS AT:	200.592 Deg F
AND AT:	4013.284 PSIA
MAXIMUM ERROR SPECIFICATION:	9.000 PSIA
NUMBER OF POINTS EXCEEDING ERROR SPEC:	0
PERCENTAGE OF POINTS EXCEEDING SPEC:	0.000 %

SENSITIVITY:	5.673 PSIA/Hz
SENSITIVITY:	0.176 Hz/PSIA

Gauge serial number: 85954
Range: 1014.76 Psia
Date calibrated: 09/02/95
Date verified: 09/03/95
Model: EPG-520
Coefficient type: GRC FREQUENCY

TEMPERATURE SUMMARY

Maximum positive error: 0.724 Deg. F
Maximum negative error: -0.588 Deg. F
Sensitivity: 0.087 Deg. F/Hz
Sensitivity: 11.475 Hz/Deg. F

PRESSURE SUMMARY

Maximum positive error: 0.640 Psia
Occurs at: 52.277 Deg. F
And at: 15.400 Psia
Maximum negative error: -0.429 Psia
Occurs at: 52.277 Deg. F
And at: 49.331 Psia
Maximum hysteresis: 0.722 Psia
Occurs at: 52.277 Deg. F
And at: 14.760 Psia
Sensitivity: 1.479 Psia/Hz
Sensitivity: 0.676 Hz/Psia

Gauge serial number: 85954
Range: 1014.76 Psia
Date calibrated: 09/02/95
Date verified: 09/03/95
Model: EPG-520

GAUGE ACCURACY CALCULATIONS

Curve fit: 0.640 Psia
1/2 Hysteresis: 0.361 Psia
Short term repeatability at 0 Deg. F: 0.000 Psia
Long term repeatability at 0 Deg. F: 0.000 Psia

Overall accuracy: 1.001 Psia



MILTON M. COOKE COMPANY

WELL TESTING SPECIALISTS

2310 McALLISTER
713/683-0333

HOUSTON, TEXAS 77092
TX. WATS: 1-800-392-3861
FAX: 683-0128

FIELD CALIBRATION CHECK: [PRE-TEST]

(GRC EPG-520 - SURFACE READOUT GAUGE)

DATE: 10/24/1995

D.W.T. S/N: 3469

GRC GAUGE S/N: 85954

D.W.P. (PSIG)	GAUGE PRESSURE (PSIA)	DIFFERENCE (+/-PSI)
0.0	21.63	+21.63
500.0	523.73	+23.73
1000.0	1016.99	+16.99
1500.0	1514.47	+ 14.47

2000.00

2016.22

+16.22

0.00

15.67

+ 15.67

***** 630-303 WELL TEST DATA *****

COMPANY: HUTTON R. COOKE COMPANY
CLIENT: HOECHST CELLULOSE CHEMICAL CO.
GAUGE NUMBER: 95954
WELL NAME: M004-32
WELL NUMBER: 03
TEST NUMBER: 6
LOCATION: BOG FILL LOCATIONS
TEST NUMBER: BOG HEAD
COMMENTS: PRE-TEST CALIBRATION CHECK
APR-5204-500 LSL

POSITION	GAUGE SERIAL NUMBER	PRESSURE RANGE	DATE CALIBRATED
1	95954	2514.76 Psia	08/23/95
2	NO GAUGE		
3	NO GAUGE		
4	NO GAUGE		

Date: 10/24/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deg F	PRESSURE PSIA	GAUGE FOS	COMMENTS
09:52:08	0.004	73.77		1	
09:52:22	0.008	73.73		1	
09:52:37	0.012	73.70		1	
09:52:51	0.016	73.67		1	
09:53:06	0.020	73.65		1	
09:53:20	0.024	73.62		1	
09:54:02	0.036	73.53		1	
09:54:16	0.040		21.36	1	
09:54:31	0.044	73.50		1	
09:54:45	0.048		21.34	1	
09:55:00	0.052	73.47		1	
09:55:14	0.056		21.31	1	
09:55:28	0.060	73.44		1	
09:55:43	0.064		21.63	1	
09:55:57	0.068	73.41		1	
09:56:12	0.072		81.84	1	
09:56:26	0.076	73.40		1	
09:56:40	0.080		523.37	1	
09:56:55	0.084	73.38		1	
09:57:07	0.088		523.73	1	
09:57:24	0.092	73.35		1	
09:57:38	0.096		441.80	1	
09:57:52	0.100	73.33		1	
09:58:07	0.104		910.87	1	
09:58:21	0.108	73.34		1	
09:58:36	0.112		1009.04	1	
09:58:50	0.116	73.32		1	
09:59:04	0.120		1092.70	1	
09:59:19	0.124	73.30		1	
09:59:33	0.128		980.35	1	
09:59:55	0.134	73.29		1	
10:00:02	0.136		984.96	1	
10:00:09	0.138	73.29		1	
10:00:17	0.140		1001.44	1	
10:00:24	0.142	73.28		1	
10:00:31	0.144		999.96	1	
10:00:38	0.146	73.28		1	
10:00:45	0.148		1016.99	1	
10:00:53	0.150	73.28		1	
10:01:00	0.152		1008.02	1	
10:01:07	0.154	73.28		1	
10:01:14	0.156		986.54	1	
10:01:21	0.158	73.28		1	
10:01:29	0.160		1503.39	1	
10:01:36	0.162	73.29		1	
10:01:43	0.164		1484.18	1	
10:01:50	0.166	73.29		1	
10:01:57	0.168		1555.26	1	
10:02:05	0.170	73.29		1	
10:02:12	0.172		1526.85	1	

Date: 10/24/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deg F	PRESSURE PSIA	GAUGE POS	COMMENTS
10:02:19	0.174	73.29		1	
10:02:26	0.176		1514.47	1	
10:02:33	0.178	73.29		1	
10:02:41	0.180		1466.15	1	
10:02:48	0.182	73.28		1	
10:02:55	0.184		1978.24	1	
10:03:02	0.186	73.30		1	
10:03:09	0.188		1985.51	1	
10:03:17	0.190	73.29		1	
10:03:24	0.192		1983.46	1	
10:03:31	0.194	73.29		1	
10:03:38	0.196		1972.82	1	
10:03:45	0.198	73.29		1	
10:03:53	0.200		2168.33	1	
10:04:00	0.202	73.29		1	
10:04:07	0.204		2153.88	1	
10:04:14	0.206	73.29		1	
10:04:21	0.208		2142.62	1	
10:04:27	0.210	73.29		1	
10:04:36	0.212		2131.11	1	
10:04:43	0.214	73.28		1	
10:04:50	0.216		2121.23	1	
10:04:57	0.218	73.28		1	
10:05:05	0.220		2111.84	1	
10:05:12	0.222	73.28		1	
10:05:19	0.224		1817.83	1	
10:05:26	0.226	73.27		1	
10:05:33	0.228		2016.22	1	
10:05:41	0.230	73.27		1	
10:05:48	0.232		2011.17	1	
10:05:55	0.234	73.28		1	
10:06:02	0.236		730.11	1	
10:06:09	0.238	73.21		1	
10:06:17	0.240		30.39	1	
10:06:24	0.242	73.20		1	
10:06:31	0.244		21.29	1	
10:06:38	0.246	73.20		1	
10:06:45	0.248		21.32	1	
10:06:53	0.250	73.21		1	
10:07:00	0.252		18.09	1	
10:07:07	0.254	73.22		1	
10:07:14	0.256		15.60	1	
10:07:21	0.258	73.22		1	
10:07:29	0.260		15.67	1	



MILTON M. COOKE COMPANY

WELL TESTING SPECIALISTS

2310 McALLISTER
713/683-0333

HOUSTON, TEXAS 77092
TX. WATS: 1-800-392-3861
FAX: 683-0128

FIELD CALIBRATION CHECK: [POST-TEST]

(GRC EPG-520 - SURFACE READOUT GAUGE)

DATE: 10/26/1995

D.W.T. S/N: 3469

GRC GAUGE S/N: 85954

D.W.P. (PSIG)	GAUGE PRESSURE (PSIA)	DIFFERENCE (+/-PSI)
0.0	14.15	+14.15
500.0	515.62	+15.62
1000.0	1015.70	+15.70
1500.0	1515.78	+ 15.78

2000.00

2011.78

+11.78

0.00

14.70

+ 14.70

GSC-503 WELL TEST DATA

COMPANY: MILTON H. COOKE COMPANY
CLIENT: HOECHST CELANESE CHEMICAL CO.
GAUGE NUMBER: 85954
WELL NAME: WDW-32
WELL NUMBER: 03
TEST NUMBER: 8
LOCATION: BAY CITY FACILITY
TEST OPERATOR: DOUG BEALL
COMMENTS: POST TEST CALIBRATION TEST
EFG-520/2500 PSI

POSITION GAUGE SERIAL NUMBER PRESSURE RANGE DATE CALIBRATED

1	85954	2514.76 PsiA	09/23/95
2	NO GAUGE		
3	NO GAUGE		
4	NO GAUGE		

Date: 10/26/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deg F	PRESSURE PSIA	GAUGE POS	COMMENTS
08:02:54	0.010	76.87		1	
08:03:02	0.012		14.33	1	
08:03:09	0.014	76.83		1	
08:03:16	0.016		14.30	1	
08:03:23	0.018	76.82		1	
08:03:31	0.020		14.28	1	
08:03:38	0.022	76.81		1	
08:03:45	0.024		14.27	1	
08:03:52	0.026	76.81		1	
08:03:59	0.028		14.26	1	
08:04:07	0.030	76.81		1	
08:04:14	0.032		14.25	1	
08:04:21	0.034	76.81		1	
08:04:28	0.036		14.24	1	
08:04:35	0.038	76.81		1	
08:04:43	0.040		14.24	1	
08:04:50	0.042	76.81		1	
08:04:57	0.044		14.23	1	
08:05:04	0.046	76.81		1	
08:05:11	0.048		14.23	1	
08:05:19	0.050	76.72		1	
08:05:26	0.052		14.19	1	
08:05:33	0.054	76.69		1	
08:05:40	0.056		14.18	1	
08:05:47	0.058	76.68		1	
08:05:55	0.060		14.18	1	
08:06:02	0.062	76.66		1	
08:06:09	0.064		14.17	1	
08:06:16	0.066	76.65		1	
08:06:23	0.068		14.17	1	
08:06:31	0.070	76.64		1	
08:06:38	0.072		14.16	1	
08:06:45	0.074	76.62		1	
08:06:52	0.076		14.15	1	
08:06:59	0.078	76.61		1	
08:07:07	0.080		27.72	1	
08:07:14	0.082	76.60		1	
08:07:21	0.084		49.44	1	
08:07:28	0.086	76.60		1	
08:07:35	0.088		46.81	1	
08:07:43	0.090	76.61		1	
08:07:50	0.092		533.05	1	
08:07:57	0.094	76.61		1	
08:08:04	0.096		529.32	1	
08:08:11	0.098	76.60		1	
08:08:19	0.100		447.93	1	
08:08:26	0.102	76.58		1	
08:08:33	0.104		455.49	1	
08:08:40	0.106	76.58		1	
08:08:47	0.108		518.43	1	

Date: 10/26/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deg F	PRESSURE PSIA	GAUGE FOS	COMMENTS
08:08:55	0.110	76.57		1	
08:09:02	0.112		515.62	1	
08:09:09	0.114	76.56		1	
08:09:16	0.116		503.81	1	
08:09:23	0.118	76.56		1	
08:09:31	0.120		1018.82	1	
08:09:38	0.122	76.57		1	
08:09:45	0.124		1022.62	1	
08:09:52	0.126	76.55		1	
08:09:59	0.128		1028.04	1	
08:10:07	0.130	76.54		1	
08:10:14	0.132		1033.97	1	
08:10:21	0.134	76.53		1	
08:10:28	0.136		792.62	1	
08:10:35	0.138	76.52		1	
08:10:43	0.140		930.19	1	
08:10:50	0.142	76.52		1	
08:10:57	0.144		1001.18	1	
08:11:04	0.146	76.51		1	
08:11:11	0.148		1005.83	1	
08:11:19	0.150	76.51		1	
08:11:26	0.152		1028.10	1	
08:11:33	0.154	76.50		1	
08:11:40	0.156		1024.42	1	
08:11:47	0.158	76.50		1	
08:11:55	0.160		989.75	1	
08:12:02	0.162	76.49		1	
08:12:09	0.164		1015.70	1	
08:12:16	0.166	76.48		1	
08:12:23	0.168		1011.06	1	
08:12:31	0.170	76.48		1	
08:12:38	0.172		911.86	1	
08:12:45	0.174	76.48		1	
08:12:52	0.176		1517.42	1	
08:12:59	0.178	76.48		1	
08:13:07	0.180		1516.14	1	
08:13:14	0.182	76.47		1	
08:13:21	0.184		1515.97	1	
08:13:28	0.186	76.47		1	
08:13:35	0.188		1511.62	1	
08:13:43	0.190	76.46		1	
08:13:50	0.192		1509.85	1	
08:13:57	0.194	76.45		1	
08:14:04	0.196		1506.40	1	
08:14:11	0.198	76.44		1	
08:14:19	0.200		1515.19	1	
08:14:26	0.202	76.43		1	
08:14:33	0.204		1515.78	1	
08:14:40	0.206	76.42		1	
08:14:47	0.208		1511.48	1	

Date: 10/26/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deg F	PRESSURE PSIA	GAUGE FOS	COMMENTS
08:14:55	0.210	76.41		1	
08:15:02	0.212		1966.26	1	
08:15:09	0.214	76.42		1	
08:15:16	0.216		1997.91	1	
08:15:23	0.218	76.42		1	
08:15:31	0.220		1997.29	1	
08:15:38	0.222	76.41		1	
08:15:45	0.224		2001.54	1	
08:15:52	0.226	76.41		1	
08:15:59	0.228		1998.53	1	
08:16:07	0.230	76.40		1	
08:16:14	0.232		2008.37	1	
08:16:21	0.234	76.40		1	
08:16:28	0.236		2007.04	1	
08:16:35	0.238	76.40		1	
08:16:43	0.240		1995.54	1	
08:16:50	0.242	76.40		1	
08:16:57	0.244		2019.84	1	
08:17:04	0.246	76.40		1	
08:17:11	0.248		2023.91	1	
08:17:19	0.250	76.39		1	
08:17:26	0.252		1992.47	1	
08:17:33	0.254	76.39		1	
08:17:40	0.256		1993.97	1	
08:17:47	0.258	76.39		1	
08:17:55	0.260		2035.44	1	
08:18:02	0.262	76.39		1	
08:18:09	0.264		2023.35	1	
08:18:16	0.266	76.38		1	
08:18:23	0.268		2012.11	1	
08:18:31	0.270	76.38		1	
08:18:38	0.272		2009.59	1	
08:18:45	0.274	76.38		1	
08:18:52	0.276		2012.22	1	
08:18:59	0.278	76.38		1	
08:19:07	0.280		2000.69	1	
08:19:14	0.282	76.37		1	
08:19:21	0.284		2023.02	1	
08:19:28	0.286	76.37		1	
08:19:35	0.288		2011.78	1	
08:19:43	0.290	76.37		1	
08:19:50	0.292		2000.66	1	
08:19:57	0.294	76.36		1	
08:20:04	0.296		1936.23	1	
08:20:11	0.298	76.31		1	
08:20:19	0.300		38.18	1	
08:20:26	0.302	76.28		1	
08:20:33	0.304		37.66	1	
08:20:40	0.306	76.28		1	
08:20:47	0.308		24.39	1	

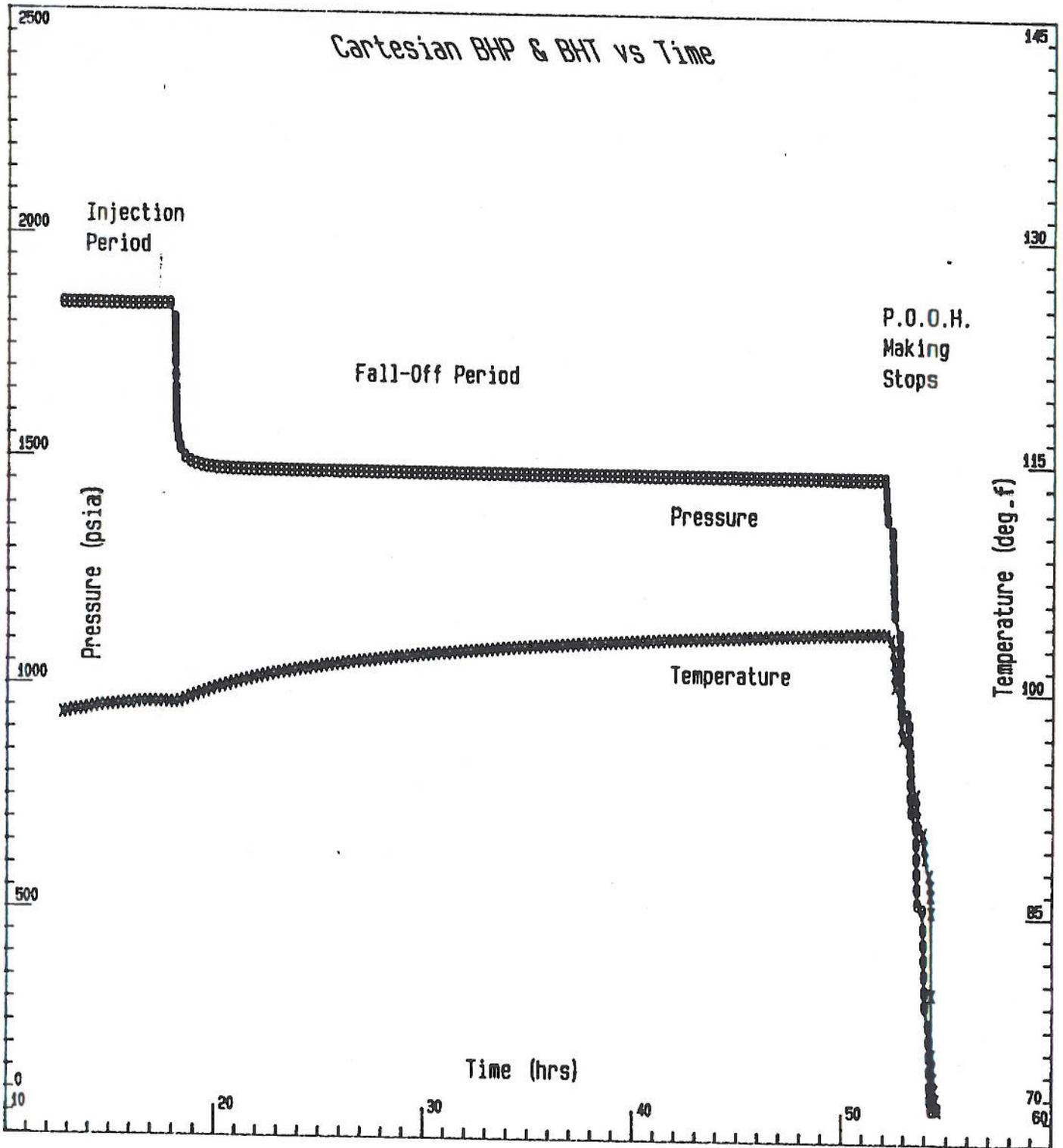
Date: 10/26/95

REAL TIME	DELTA TIME HRS	TEMPERATURE Deo F	PRESSURE PSIA	GAUGE FDS	COMMENTS
08:20:55	0.310	76.28		1	
08:21:02	0.312		21.33	1	
08:21:09	0.314	76.28		1	
08:21:16	0.316		16.87	1	
08:21:23	0.318	76.28		1	
08:21:31	0.320		13.73	1	
08:21:38	0.322	76.28		1	
08:21:45	0.324		12.43	1	
08:21:52	0.326	76.27		1	
08:21:59	0.328		12.11	1	
08:22:07	0.330	76.27		1	
08:22:14	0.332		12.86	1	
08:22:21	0.334	76.27		1	
08:22:28	0.336		13.51	1	
08:22:35	0.338	76.27		1	
08:22:43	0.340		13.84	1	
08:22:50	0.342	76.26		1	
08:22:57	0.344		14.54	1	
08:23:04	0.346	76.25		1	
08:23:11	0.348		14.69	1	
08:23:19	0.350	76.25		1	
08:23:26	0.352		14.70	1	
08:23:33	0.354	76.24		1	
08:23:40	0.356		14.69	1	
08:23:47	0.358	76.24		1	
08:23:55	0.360		14.70	1	

ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

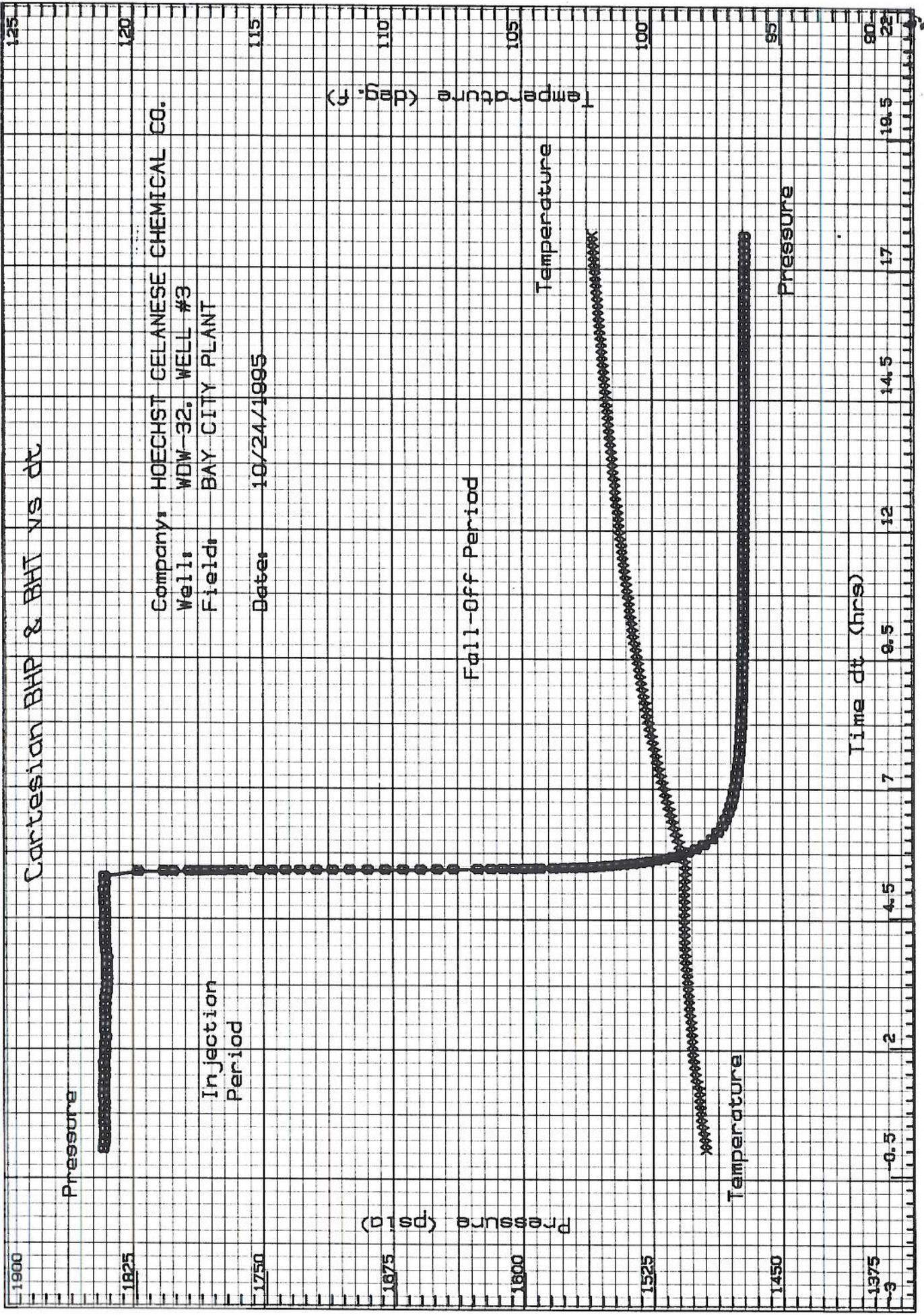
APPENDIX D

FALL-OFF PLOTS



<p>Company: HOECHST CELANESE CHEMICAL CO. Well: WDW-32 WELL #3 Field: BAY CITY PLANT</p>	<p>Begin Time: 12:41:31 10/24/95 End Time: 06:34:33 10/26/95</p>
<p>Date: 10/24/1995</p>	<p>Final Injection B.H.P. = 1842 psi Final Fall-Off B.H.P. = 1468 psi Gauge Depth = 3192 ft.</p>

Cartesian BHP & BHT vs dt



Company: HOECHST CELANESE CHEMICAL CO.
Well: WDW-32, WELL #3
Field: BAY CITY PLANT
Date: 10/24/1995

Pressure

Pressure (psia)

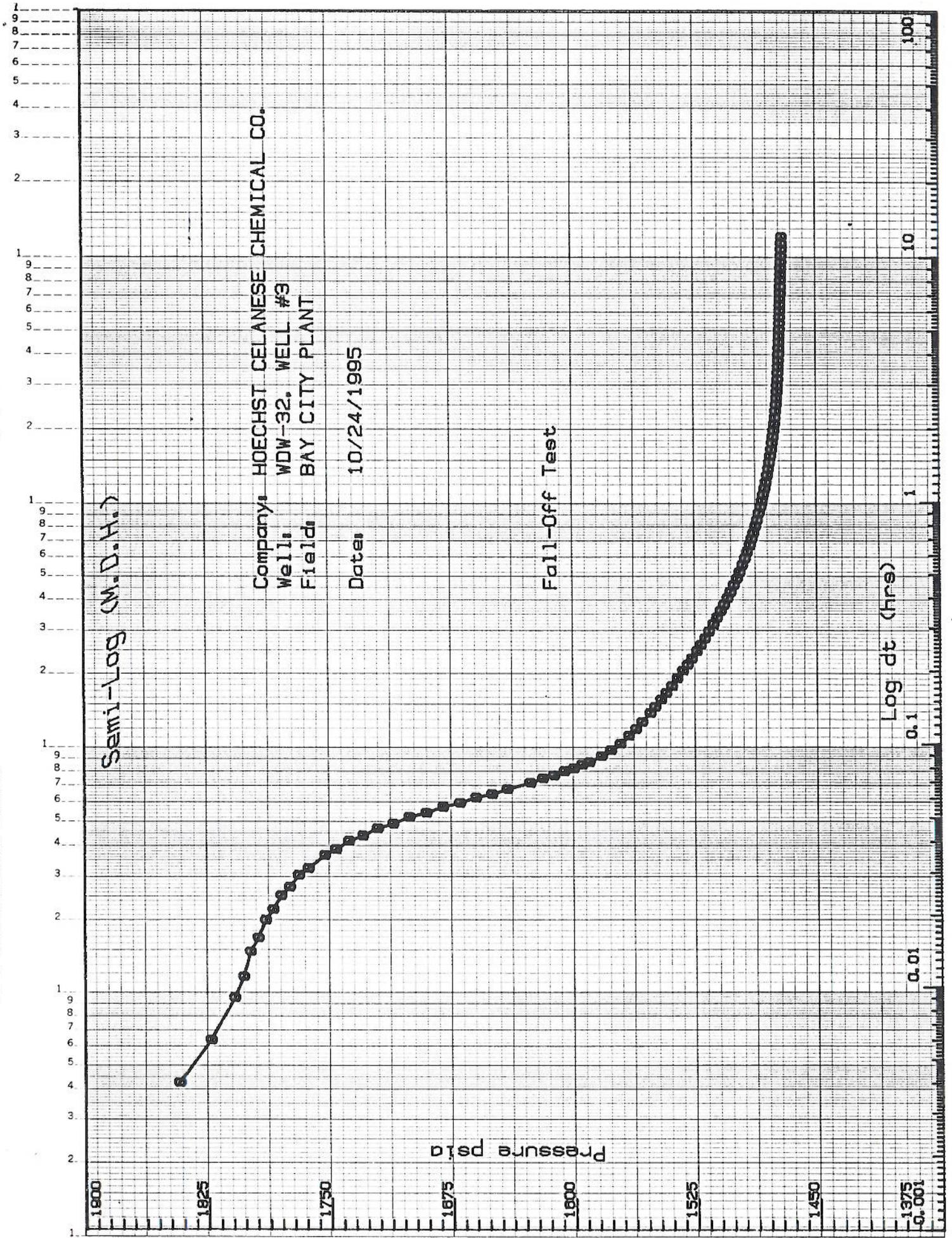
Temperature

Temperature (deg. F)

Temperature

Pressure

Time dt (hrs)



1900

1825

1750

1675

1600

1525

1450

1375
0.001

Pressure psia

Log dt (hrs)

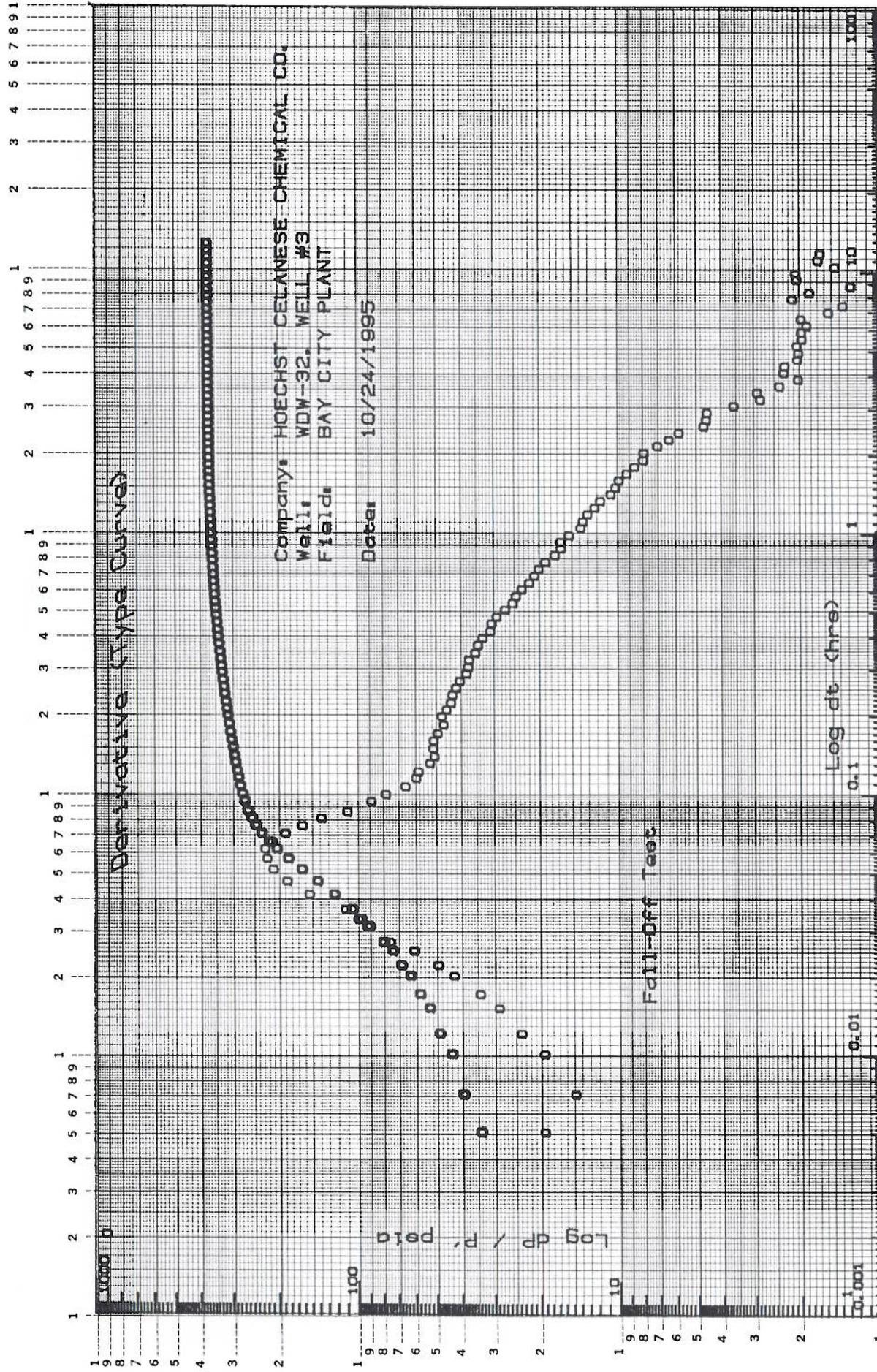
0.01

0.1

1

10

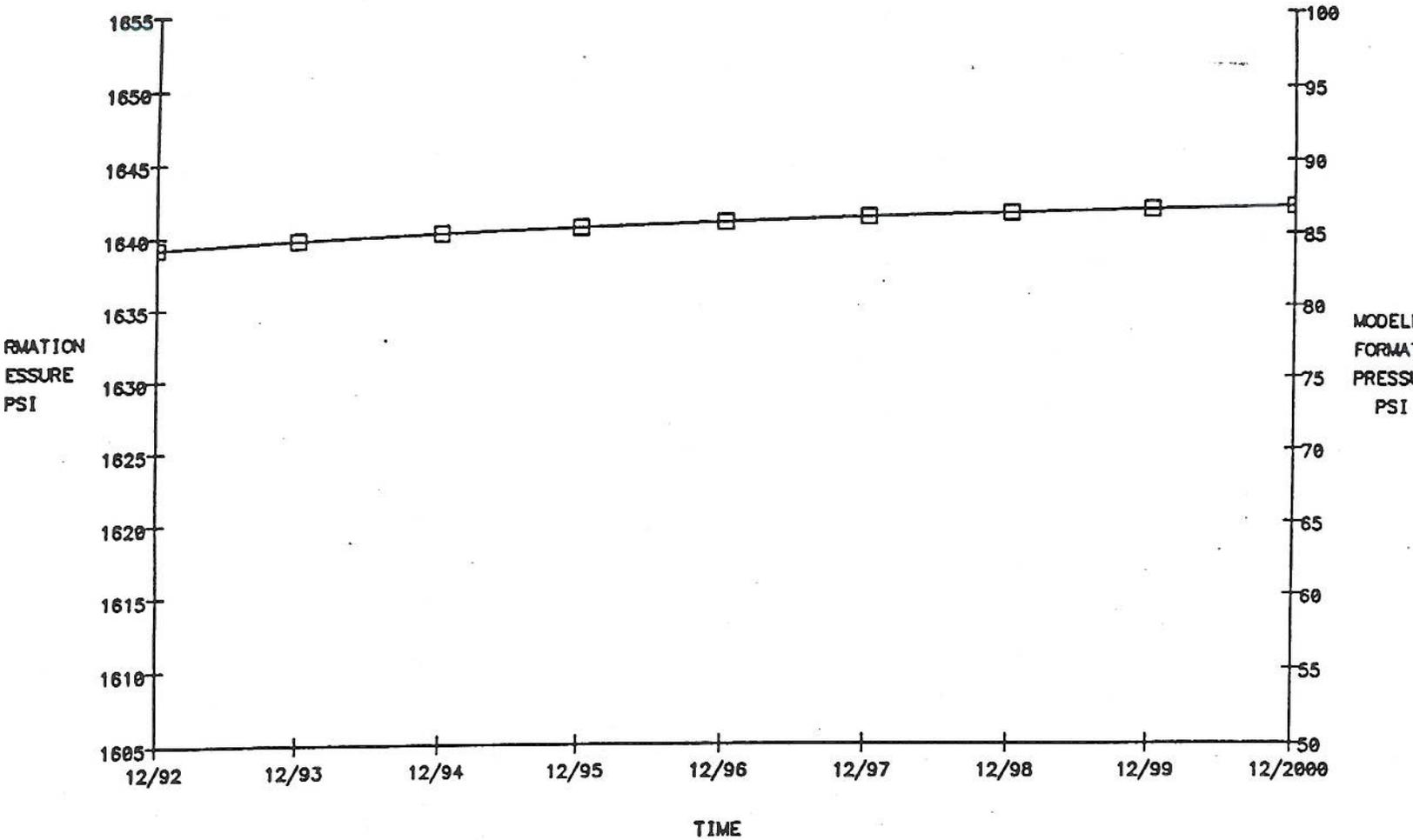
100



APPENDIX E

GRAPH OF MODELLED PRESSURES

UPPER MIOCENE INJECTION SAND - WDW-32



—□— MODELED FORMATION PRESSURES

MODELED OPERATIONAL FORMATION PRESSURES IN WDW-32 (1992 - 2000)

APPENDIX F

FALL-OFF DATA AND FLOW RATE DATA

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)	WHP (PSIG)
-------	-----	-----------	----------	------------	-------------	------------

[Tuesday: October 24, 1995]

Gauge @ Test Depth of 3192 ft.
 Surface Read-Out Gauge S/N 85954/2500 psi
 Memory Gauge Back-Up S/N 79993/5000 psi
 Monitoring Bottom-Hole Injection Pressure.
 1 0 12:41:31 0.0000 1843.66 97.98 0.00
 Shut-Down Injection and start Fall-Off Test.
 Monitoring Bottom-Hole Fall-Off Pressure.
 688 0 18: 1:55 5.3400 1842.22 98.75 600.15

[Wednesday: October 25, 1995]

Continuing to monitor Bottom-Hole Fall-Off Press.
 2299 1 6: 0:11 17.3110 1470.09 102.20 69.50

[Thursday: October 26, 1995]

End of Fall-Off Test.
 Start out of hole making gradient stops.
 3700 2 4: 1:55 39.3400 1468.15 104.00 0.00

Depart 3,000 ft.
 3721 2 4:22: 5 39.6760 1384.43 103.62 0.00

Depart 2,500 ft.
 3744 2 4:44: 9 40.0440 1167.31 100.19 0.00

Depart 2,000 ft.
 3773 2 5:12: 0 40.5080 950.13 96.75 0.00

Depart 1,500 ft.
 3793 2 5:31:12 40.8280 732.94 93.69 0.00

Depart 1,000 ft.
 3816 2 5:53:17 41.1960 515.91 90.72 0.00

Depart 500 ft.
 3832 2 6: 8:38 41.4520 299.23 88.33 0.00

Arrived @ Surface.
 3840 2 6:16:10 41.5900 24.70 85.24 0.00

TIME (HRS) (PSIA) (Deg.F) (PSIG)

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
1	12:41:31	0.0000	1843.66	97.98	0.00
3	12:44:31	0.0500	1843.62	97.96	0.00
12	12:46:41	0.0860	1843.45	97.99	0.00
17	12:48:47	0.1210	1842.83	98.00	0.00
22	12:51:11	0.1610	1843.17	98.00	0.00
27	12:53:35	0.2010	1842.81	98.02	0.00
32	12:55:59	0.2410	1842.66	98.02	0.00
37	12:58:23	0.2810	1842.99	98.05	0.00
42	13: 0:47	0.3210	1842.74	98.07	0.00
47	13: 3:11	0.3610	1842.70	98.08	0.00
52	13: 5:35	0.4010	1842.72	98.09	0.00
57	13: 7:59	0.4410	1843.05	98.10	0.00
62	13:10:23	0.4810	1842.65	98.12	0.00
67	13:12:47	0.5210	1842.78	98.15	0.00
72	13:15:11	0.5610	1842.80	98.18	0.00
77	13:17:35	0.6010	1842.72	98.20	0.00
82	13:19:59	0.6410	1842.97	98.18	0.00
87	13:22:23	0.6810	1842.97	98.17	0.00
92	13:24:47	0.7210	1842.97	98.17	0.00
97	13:27:11	0.7610	1842.85	98.17	0.00
102	13:29:35	0.8010	1842.81	98.19	0.00
107	13:31:59	0.8410	1842.87	98.20	0.00
112	13:34:23	0.8810	1842.87	98.22	0.00
117	13:36:47	0.9210	1843.04	98.22	0.00
122	13:39:11	0.9610	1842.77	98.21	0.00
127	13:41:35	1.0010	1843.11	98.22	0.00
132	13:43:59	1.0410	1843.21	98.24	0.00
137	13:46:23	1.0810	1843.00	98.24	0.00
142	13:48:47	1.1210	1843.15	98.22	0.00
147	13:51:11	1.1610	1843.19	98.23	0.00
152	13:53:35	1.2010	1843.23	98.26	0.00
157	13:55:59	1.2410	1843.04	98.29	0.00
162	13:58:23	1.2810	1843.08	98.31	0.00
167	14: 0:47	1.3210	1842.74	98.33	0.00
172	14: 3:11	1.3610	1842.97	98.35	0.00
177	14: 5:35	1.4010	1842.71	98.36	0.00
182	14: 7:59	1.4410	1842.80	98.38	0.00
187	14:10:23	1.4810	1842.69	98.40	0.00
192	14:12:47	1.5210	1842.81	98.40	0.00
197	14:15:11	1.5610	1842.76	98.40	0.00
202	14:17:35	1.6010	1842.90	98.40	0.00
207	14:19:59	1.6410	1843.14	98.40	0.00
212	14:22:23	1.6810	1843.25	98.42	0.00
217	14:24:47	1.7210	1842.98	98.45	0.00

Gauge @ Test Depth of 3192 ft.
 Surface Read-Out Gauge S/N 85954/2500 psi
 Memory Gauge Back-Up S/N 79993/5000 psi
 Monitoring Bottom-Hole Injection Pressure.

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
232	0	14:31:59	1.8410	1842.34	98.47	0.00
237	0	14:34:23	1.8810	1842.33	98.48	0.00
242	0	14:36:47	1.9210	1842.23	98.48	0.00
247	0	14:39:11	1.9610	1842.29	98.50	0.00
252	0	14:41:35	2.0010	1842.32	98.50	0.00
257	0	14:43:59	2.0410	1842.35	98.50	0.00
262	0	14:46:23	2.0810	1842.08	98.50	0.00
267	0	14:48:47	2.1210	1841.76	98.49	0.00
272	0	14:51:11	2.1610	1841.77	98.49	0.00
277	0	14:53:35	2.2010	1841.95	98.50	0.00
282	0	14:55:59	2.2410	1842.15	98.51	0.00
287	0	14:58:23	2.2810	1842.38	98.53	0.00
292	0	15: 0:47	2.3210	1842.37	98.54	0.00
297	0	15: 3:11	2.3610	1842.03	98.54	0.00
302	0	15: 5:35	2.4010	1842.22	98.53	0.00
307	0	15: 7:59	2.4410	1842.22	98.53	0.00
312	0	15:10:23	2.4810	1842.28	98.54	0.00
317	0	15:12:47	2.5210	1842.31	98.56	0.00
322	0	15:15:11	2.5610	1842.19	98.57	0.00
327	0	15:17:35	2.6010	1841.93	98.58	0.00
332	0	15:19:59	2.6410	1842.22	98.60	0.00
337	0	15:22:23	2.6810	1842.29	98.61	0.00
342	0	15:24:47	2.7210	1842.41	98.61	0.00
347	0	15:27:11	2.7610	1841.99	98.61	0.00
352	0	15:29:35	2.8010	1842.00	98.61	0.00
357	0	15:31:59	2.8410	1842.18	98.62	0.00
362	0	15:34:23	2.8810	1842.28	98.62	0.00
367	0	15:36:47	2.9210	1842.31	98.63	0.00
372	0	15:39:11	2.9610	1842.28	98.63	0.00
377	0	15:41:35	3.0010	1841.56	98.64	0.00
382	0	15:43:59	3.0410	1841.72	98.65	0.00
387	0	15:46:23	3.0810	1841.40	98.66	0.00
392	0	15:48:47	3.1210	1841.25	98.67	0.00
397	0	15:51:11	3.1610	1841.15	98.67	0.00
402	0	15:53:35	3.2010	1841.12	98.68	0.00
407	0	15:55:59	3.2410	1841.07	98.67	0.00
412	0	15:58:23	3.2810	1841.22	98.66	0.00
417	0	16: 0:47	3.3210	1841.17	98.67	0.00
422	0	16: 3:11	3.3610	1841.26	98.69	0.00
427	0	16: 5:35	3.4010	1841.28	98.70	0.00
432	0	16: 7:59	3.4410	1841.20	98.70	0.00
437	0	16:10:23	3.4810	1841.21	98.71	0.00
442	0	16:12:47	3.5210	1841.11	98.72	0.00
447	0	16:15:11	3.5610	1841.22	98.73	0.00
452	0	16:17:35	3.6010	1841.26	98.74	0.00
457	0	16:19:59	3.6410	1841.17	98.75	0.00
462	0	16:22:23	3.6810	1841.30	98.75	0.00
467	0	16:24:47	3.7210	1841.13	98.75	0.00

REC #	DAI	READ TIME	DI (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
482	0	16:31:59	3.8410	1841.74	98.76	0.00
487	0	16:34:23	3.8810	1841.85	98.76	0.00
492	0	16:36:47	3.9210	1842.12	98.76	0.00
497	0	16:39:11	3.9610	1842.20	98.76	0.00
502	0	16:41:35	4.0010	1842.29	98.77	0.00
507	0	16:43:59	4.0410	1842.43	98.77	0.00
512	0	16:46:23	4.0810	1842.41	98.78	0.00
517	0	16:48:47	4.1210	1842.14	98.78	0.00
522	0	16:51:11	4.1610	1842.32	98.78	0.00
527	0	16:53:35	4.2010	1842.36	98.78	0.00
532	0	16:55:59	4.2410	1842.31	98.78	0.00
537	0	16:58:23	4.2810	1842.32	98.78	0.00
542	0	17: 0:47	4.3210	1842.32	98.79	0.00
547	0	17: 3:11	4.3610	1842.22	98.79	0.00
552	0	17: 5:35	4.4010	1842.02	98.79	0.00
557	0	17: 7:59	4.4410	1841.97	98.79	0.00
562	0	17:10:23	4.4810	1842.15	98.79	0.00
567	0	17:12:47	4.5210	1842.38	98.79	0.00
572	0	17:15:11	4.5610	1842.36	98.79	0.00
577	0	17:17:35	4.6010	1842.29	98.78	0.00
582	0	17:19:59	4.6410	1842.25	98.77	0.00
587	0	17:22:23	4.6810	1842.71	98.78	0.00
592	0	17:24:47	4.7210	1842.55	98.78	0.00
597	0	17:27:11	4.7610	1842.75	98.78	0.00
602	0	17:29:35	4.8010	1842.64	98.78	0.00
607	0	17:31:59	4.8410	1842.51	98.79	0.00
612	0	17:34:23	4.8810	1842.64	98.79	0.00
617	0	17:36:47	4.9210	1842.68	98.78	0.00
622	0	17:39:11	4.9610	1842.86	98.78	0.00
627	0	17:41:35	5.0010	1842.81	98.78	0.00
632	0	17:43:59	5.0410	1842.75	98.79	0.00
637	0	17:46:23	5.0810	1842.44	98.78	0.00
642	0	17:48:47	5.1210	1842.35	98.77	0.00
647	0	17:51:11	5.1610	1842.70	98.76	0.00
650	0	17:52:37	5.1850	1842.70	98.76	0.00
651	0	17:53: 6	5.1930	1842.77	98.76	0.00
652	0	17:53:35	5.2010	1842.70	98.76	0.00
653	0	17:54: 3	5.2090	1842.60	98.75	0.00
654	0	17:54:32	5.2170	1842.58	98.75	0.00
655	0	17:55: 1	5.2250	1842.54	98.75	0.00
656	0	17:55:30	5.2330	1842.54	98.75	0.00
657	0	17:55:59	5.2410	1842.55	98.75	0.00
658	0	17:56:27	5.2490	1842.56	98.75	0.00
659	0	17:56:56	5.2570	1842.64	98.75	0.00
660	0	17:57:29	5.2660	1842.57	98.75	0.00
661	0	17:57:39	5.2690	1842.60	98.75	0.00
662	0	17:57:47	5.2710	1842.54	98.75	0.00
663	0	17:57:57	5.2740	1842.62	98.75	0.00

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
666	17:58:30	5.2830	1842.67	98.75	0.00
667	17:58:41	5.2860	1842.68	98.75	0.00
668	17:58:48	5.2880	1842.70	98.75	0.00
669	17:58:59	5.2910	1842.72	98.76	0.00
670	17:59:06	5.2930	1842.70	98.75	0.00
671	17:59:17	5.2960	1842.69	98.75	0.00
672	17:59:24	5.2980	1842.67	98.75	0.00
673	17:59:35	5.3010	1842.73	98.75	0.00
674	17:59:42	5.3030	1842.69	98.75	0.00
675	17:59:53	5.3060	1842.51	98.75	0.00
676	18:00:07	5.3100	1842.29	98.75	0.00
677	18:00:14	5.3120	1842.17	98.75	0.00
678	18:00:25	5.3150	1842.15	98.75	0.00
679	18:00:32	5.3170	1842.12	98.75	0.00
680	18:00:43	5.3200	1842.16	98.75	0.00
681	18:00:50	5.3220	1842.24	98.75	0.00
682	18:01:01	5.3250	1842.17	98.75	0.00
683	18:01:08	5.3270	1842.12	98.75	0.00
684	18:01:19	5.3300	1842.16	98.75	0.00
685	18:01:26	5.3320	1842.21	98.75	0.00
686	18:01:37	5.3350	1842.20	98.75	0.00
687	18:01:44	5.3370	1842.27	98.75	0.00
Shut-Down Injection and start Fall-Off Test.					
Monitoring Bottom-Hole Fall-Off Pressure.					
688	18:01:55	5.3400	1842.22	98.75	600.15
689	18:02:09	5.3440	1842.18	98.74	0.00
690	18:02:17	5.3460	1823.20	98.74	0.00
691	18:02:27	5.3490	1808.60	98.75	0.00
692	18:02:35	5.3510	1803.01	98.74	0.00
693	18:02:45	5.3540	1798.81	98.74	0.00
694	18:02:53	5.3560	1793.91	98.74	0.00
695	18:03:03	5.3590	1789.43	98.74	0.00
696	18:03:11	5.3610	1784.73	98.74	0.00
697	18:03:21	5.3640	1779.77	98.74	0.00
698	18:03:29	5.3660	1774.53	98.74	0.00
699	18:03:39	5.3690	1768.99	98.74	0.00
700	18:03:47	5.3710	1762.96	98.74	0.00
701	18:04:01	5.3750	1752.70	98.74	0.00
702	18:04:08	5.3770	1745.96	98.73	0.00
703	18:04:19	5.3800	1738.02	98.73	0.00
704	18:04:26	5.3820	1729.52	98.73	0.00
705	18:04:37	5.3850	1720.38	98.73	0.00
706	18:04:44	5.3870	1710.80	98.73	0.00
707	18:04:55	5.3900	1700.76	98.73	0.00
708	18:05:02	5.3920	1690.45	98.73	0.00
709	18:05:13	5.3950	1680.10	98.73	0.00
710	18:05:20	5.3970	1669.78	98.73	0.00
711	18:05:31	5.4000	1659.70	98.72	0.00

REC #	DAY	REAL TIME	DI (HRS)	DIF (PSIA)	DIT (Deg. F)	DIT (PSIG)
714	0	18: 6: 3	5.4090	1626.37	98.74	0.00
715	0	18: 6:14	5.4120	1618.70	98.72	0.00
716	0	18: 6:21	5.4140	1611.71	98.72	0.00
717	0	18: 6:32	5.4170	1605.32	98.72	0.00
718	0	18: 6:39	5.4190	1599.57	98.72	0.00
719	0	18: 6:50	5.4220	1594.55	98.72	0.00
720	0	18: 6:57	5.4240	1590.09	98.71	0.00
721	0	18: 7: 8	5.4270	1586.07	98.71	0.00
722	0	18: 7:15	5.4290	1582.48	98.71	0.00
723	0	18: 7:26	5.4320	1579.35	98.71	0.00
724	0	18: 7:33	5.4340	1576.61	98.71	0.00
725	0	18: 7:44	5.4370	1574.17	98.71	0.00
726	0	18: 7:55	5.4400	1570.78	98.71	0.00
727	0	18: 8: 6	5.4430	1569.02	98.71	0.00
728	0	18: 8:13	5.4450	1567.23	98.72	0.00
729	0	18: 8:24	5.4480	1565.56	98.72	0.00
730	0	18: 8:31	5.4500	1564.04	98.72	0.00
731	0	18: 8:42	5.4530	1562.62	98.72	0.00
732	0	18: 8:49	5.4550	1561.22	98.72	0.00
733	0	18: 9: 0	5.4580	1559.87	98.72	0.00
734	0	18: 9: 7	5.4600	1558.61	98.73	0.00
735	0	18: 9:18	5.4630	1557.38	98.73	0.00
736	0	18: 9:25	5.4650	1556.23	98.73	0.00
737	0	18: 9:36	5.4680	1555.13	98.73	0.00
738	0	18: 9:43	5.4700	1554.04	98.73	0.00
739	0	18: 9:57	5.4740	1552.25	98.73	0.00
740	0	18:10: 8	5.4770	1551.23	98.73	0.00
741	0	18:10:15	5.4790	1550.24	98.73	0.00
742	0	18:10:26	5.4820	1549.31	98.74	0.00
743	0	18:10:33	5.4840	1548.40	98.74	0.00
744	0	18:10:44	5.4870	1547.46	98.74	0.00
745	0	18:10:51	5.4890	1546.55	98.74	0.00
746	0	18:11: 2	5.4920	1545.67	98.74	0.00
747	0	18:11: 9	5.4940	1544.81	98.74	0.00
748	0	18:11:20	5.4970	1544.00	98.74	0.00
749	0	18:11:27	5.4990	1543.21	98.75	0.00
750	0	18:11:38	5.5020	1542.40	98.75	0.00
751	0	18:11:53	5.5060	1541.11	98.75	0.00
752	0	18:12: 0	5.5080	1540.36	98.75	0.00
753	0	18:12:11	5.5110	1539.61	98.75	0.00
754	0	18:12:18	5.5130	1538.91	98.75	0.00
755	0	18:12:29	5.5160	1538.23	98.75	0.00
756	0	18:12:36	5.5180	1537.52	98.75	0.00
757	0	18:12:47	5.5210	1536.82	98.75	0.00
758	0	18:12:54	5.5230	1536.13	98.76	0.00
759	0	18:13: 5	5.5260	1535.48	98.76	0.00
760	0	18:13:12	5.5280	1534.86	98.76	0.00
761	0	18:13:23	5.5310	1534.24	98.76	0.00

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
764	18:13:55	5.5400	1532.01	98.76	0.00
765	18:14: 2	5.5420	1531.40	98.77	0.00
766	18:14:13	5.5450	1530.83	98.77	0.00
767	18:14:20	5.5470	1530.28	98.77	0.00
768	18:14:31	5.5500	1529.73	98.78	0.00
769	18:14:38	5.5520	1529.18	98.78	0.00
770	18:14:49	5.5550	1528.61	98.78	0.00
771	18:14:56	5.5570	1528.08	98.79	0.00
772	18:15: 7	5.5600	1527.56	98.79	0.00
773	18:15:14	5.5620	1527.04	98.79	0.00
774	18:15:25	5.5650	1526.58	98.79	0.00
775	18:15:32	5.5670	1526.10	98.79	0.00
776	18:15:47	5.5710	1525.33	98.80	0.00
777	18:15:54	5.5730	1524.86	98.80	0.00
778	18:16: 5	5.5760	1524.37	98.80	0.00
779	18:16:12	5.5780	1523.91	98.80	0.00
780	18:16:23	5.5810	1523.47	98.80	0.00
781	18:16:30	5.5830	1523.06	98.81	0.00
782	18:16:41	5.5860	1522.63	98.80	0.00
783	18:16:48	5.5880	1522.19	98.80	0.00
784	18:16:59	5.5910	1521.75	98.81	0.00
785	18:17: 6	5.5930	1521.33	98.81	0.00
786	18:17:17	5.5960	1520.94	98.81	0.00
787	18:17:24	5.5980	1520.56	98.81	0.00
788	18:17:35	5.6010	1520.19	98.81	0.00
789	18:17:49	5.6050	1519.54	98.81	0.00
790	18:17:56	5.6070	1519.14	98.81	0.00
791	18:18: 7	5.6100	1518.73	98.81	0.00
792	18:18:14	5.6120	1518.35	98.82	0.00
793	18:18:25	5.6150	1517.98	98.82	0.00
794	18:18:32	5.6170	1517.65	98.82	0.00
795	18:18:43	5.6200	1517.29	98.82	0.00
796	18:18:50	5.6220	1516.93	98.82	0.00
797	18:19: 1	5.6250	1516.54	98.82	0.00
798	18:19: 8	5.6270	1516.19	98.83	0.00
799	18:19:19	5.6300	1515.85	98.83	0.00
800	18:19:26	5.6320	1515.54	98.83	0.00
801	18:19:41	5.6360	1515.08	98.83	0.00
802	18:19:51	5.6390	1514.74	98.83	0.00
803	18:19:59	5.6410	1514.40	98.83	0.00
804	18:20:20	5.6470	1513.69	98.83	0.00
805	18:20:35	5.6510	1513.19	98.83	0.00
806	18:20:49	5.6550	1512.68	98.84	0.00
807	18:21: 3	5.6590	1512.20	98.84	0.00
808	18:21:18	5.6630	1511.72	98.84	0.00
809	18:21:32	5.6670	1511.29	98.84	0.00
810	18:21:47	5.6710	1510.83	98.85	0.00
811	18:22: 1	5.6750	1510.38	98.85	0.00

REC #	DATA	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
814	0	18:22:48	5.6880	1508.97	98.85	0.00
815	0	18:23:2	5.6920	1508.54	98.86	0.00
816	0	18:23:17	5.6960	1508.13	98.86	0.00
817	0	18:23:31	5.7000	1507.77	98.86	0.00
818	0	18:23:45	5.7040	1507.36	98.86	0.00
819	0	18:24:0	5.7080	1506.97	98.87	0.00
820	0	18:24:18	5.7130	1506.61	98.87	0.00
821	0	18:24:29	5.7160	1506.27	98.87	0.00
822	0	18:24:43	5.7200	1505.93	98.87	0.00
823	0	18:24:57	5.7240	1505.53	98.87	0.00
824	0	18:25:12	5.7280	1505.17	98.88	0.00
825	0	18:25:26	5.7320	1504.84	98.88	0.00
826	0	18:25:44	5.7370	1504.40	98.88	0.00
827	0	18:25:59	5.7410	1504.13	98.88	0.00
828	0	18:26:13	5.7450	1503.77	98.89	0.00
829	0	18:26:27	5.7490	1503.48	98.89	0.00
830	0	18:26:42	5.7530	1503.19	98.89	0.00
831	0	18:26:56	5.7570	1502.89	98.89	0.00
832	0	18:27:11	5.7610	1502.57	98.90	0.00
833	0	18:27:25	5.7650	1502.24	98.90	0.00
834	0	18:27:39	5.7690	1501.97	98.90	0.00
835	0	18:27:54	5.7730	1501.67	98.90	0.00
836	0	18:28:8	5.7770	1501.38	98.91	0.00
837	0	18:28:23	5.7810	1501.09	98.91	0.00
838	0	18:28:37	5.7850	1500.81	98.91	0.00
839	0	18:28:55	5.7900	1500.49	98.91	0.00
840	0	18:29:9	5.7940	1500.23	98.92	0.00
841	0	18:29:24	5.7980	1499.96	98.92	0.00
842	0	18:29:38	5.8020	1499.69	98.92	0.00
843	0	18:29:53	5.8060	1499.44	98.92	0.00
844	0	18:30:7	5.8100	1499.19	98.93	0.00
845	0	18:30:21	5.8140	1498.93	98.93	0.00
846	0	18:30:36	5.8180	1498.67	98.93	0.00
847	0	18:31:1	5.8250	1498.22	98.93	0.00
848	0	18:31:23	5.8310	1497.94	98.93	0.00
849	0	18:31:44	5.8370	1497.61	98.94	0.00
850	0	18:32:6	5.8430	1497.26	98.94	0.00
851	0	18:32:27	5.8490	1496.87	98.95	0.00
852	0	18:32:49	5.8550	1496.60	98.95	0.00
853	0	18:33:11	5.8610	1496.28	98.96	0.00
854	0	18:33:32	5.8670	1495.99	98.96	0.00
855	0	18:33:54	5.8730	1495.71	98.96	0.00
856	0	18:34:15	5.8790	1495.40	98.97	0.00
857	0	18:34:37	5.8850	1495.09	98.97	0.00
858	0	18:34:59	5.8910	1494.81	98.97	0.00
859	0	18:35:20	5.8970	1494.53	98.98	0.00
860	0	18:35:42	5.9030	1494.26	98.98	0.00
861	0	18:36:3	5.9090	1494.03	98.98	0.00

REC #	DAY	REAL TIME	DI (HRS)	DI (PSIA)	DI (Deg. F)	DI (PSIG)
864	0	18:37: 8	5.9270	1493.23	99.00	0.00
865	0	18:37:30	5.9330	1492.97	99.00	0.00
866	0	18:37:51	5.9390	1492.74	99.01	0.00
867	0	18:38:17	5.9460	1492.52	99.01	0.00
868	0	18:38:35	5.9510	1492.30	99.01	0.00
869	0	18:38:56	5.9570	1492.06	99.02	0.00
870	0	18:39:18	5.9630	1491.82	99.02	0.00
871	0	18:39:39	5.9690	1491.60	99.03	0.00
872	0	18:40: 5	5.9760	1491.39	99.03	0.00
873	0	18:40:23	5.9810	1491.19	99.04	0.00
874	0	18:40:44	5.9870	1490.99	99.04	0.00
875	0	18:41: 6	5.9930	1490.80	99.04	0.00
876	0	18:41:27	5.9990	1490.53	99.05	0.00
877	0	18:41:53	6.0060	1490.37	99.05	0.00
878	0	18:42:11	6.0110	1490.18	99.05	0.00
879	0	18:42:32	6.0170	1489.98	99.06	0.00
880	0	18:42:54	6.0230	1489.82	99.06	0.00
881	0	18:43:15	6.0290	1489.66	99.06	0.00
882	0	18:43:41	6.0360	1489.44	99.07	0.00
883	0	18:43:59	6.0410	1489.27	99.07	0.00
884	0	18:44:20	6.0470	1489.08	99.08	0.00
885	0	18:44:42	6.0530	1488.90	99.08	0.00
886	0	18:45: 3	6.0590	1488.76	99.09	0.00
887	0	18:45:29	6.0660	1488.61	99.09	0.00
888	0	18:45:47	6.0710	1488.43	99.10	0.00
889	0	18:46: 8	6.0770	1488.26	99.10	0.00
890	0	18:46:30	6.0830	1488.09	99.11	0.00
891	0	18:46:51	6.0890	1487.92	99.11	0.00
892	0	18:47:17	6.0960	1487.78	99.11	0.00
893	0	18:47:35	6.1010	1487.65	99.11	0.00
894	0	18:47:56	6.1070	1487.50	99.11	0.00
895	0	18:48:18	6.1130	1487.35	99.12	0.00
896	0	18:48:39	6.1190	1487.18	99.12	0.00
897	0	18:49: 5	6.1260	1487.03	99.12	0.00
898	0	18:49:23	6.1310	1486.90	99.12	0.00
899	0	18:49:44	6.1370	1486.77	99.13	0.00
900	0	18:50: 6	6.1430	1486.66	99.13	0.00
901	0	18:50:27	6.1490	1486.51	99.13	0.00
902	0	18:50:53	6.1560	1486.35	99.14	0.00
903	0	18:51:11	6.1610	1486.23	99.14	0.00
904	0	18:51:32	6.1670	1486.09	99.14	0.00
905	0	18:51:54	6.1730	1485.95	99.15	0.00
906	0	18:52:15	6.1790	1485.87	99.15	0.00
907	0	18:52:41	6.1860	1485.75	99.15	0.00
908	0	18:52:59	6.1910	1485.59	99.16	0.00
909	0	18:53:20	6.1970	1485.48	99.16	0.00
910	0	18:53:42	6.2030	1485.34	99.16	0.00
911	0	18:54: 3	6.2090	1485.22	99.16	0.00

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg.F)	WHP (PSIG)
914	0	18:55: 8	6.2270	1484.90	99.17	0.00
915	0	18:55:48	6.2380	1484.68	99.17	0.00
916	0	18:56:17	6.2460	1484.53	99.18	0.00
917	0	18:56:45	6.2540	1484.40	99.19	0.00
918	0	18:57:14	6.2620	1484.28	99.19	0.00
919	0	18:57:47	6.2710	1484.13	99.20	0.00
920	0	18:58:12	6.2780	1483.97	99.20	0.00
921	0	18:58:41	6.2860	1483.84	99.21	0.00
922	0	18:59: 9	6.2940	1483.72	99.21	0.00
923	0	18:59:38	6.3020	1483.62	99.21	0.00
924	0	19: 0:11	6.3110	1483.45	99.22	0.00
925	0	19: 0:36	6.3180	1483.33	99.22	0.00
926	0	19: 1: 5	6.3260	1483.17	99.22	0.00
927	0	19: 1:33	6.3340	1483.10	99.23	0.00
928	0	19: 2: 2	6.3420	1482.98	99.23	0.00
929	0	19: 2:35	6.3510	1482.85	99.24	0.00
930	0	19: 3: 0	6.3580	1482.72	99.24	0.00
931	0	19: 3:29	6.3660	1482.61	99.25	0.00
932	0	19: 3:57	6.3740	1482.51	99.25	0.00
933	0	19: 4:26	6.3820	1482.42	99.26	0.00
934	0	19: 4:59	6.3910	1482.27	99.26	0.00
935	0	19: 5:24	6.3980	1482.17	99.27	0.00
936	0	19: 5:53	6.4060	1482.05	99.27	0.00
937	0	19: 6:21	6.4140	1481.98	99.27	0.00
938	0	19: 6:50	6.4220	1481.87	99.28	0.00
939	0	19: 7:23	6.4310	1481.76	99.28	0.00
940	0	19: 7:48	6.4380	1481.64	99.29	0.00
941	0	19: 8:17	6.4460	1481.55	99.29	0.00
942	0	19: 8:45	6.4540	1481.47	99.29	0.00
943	0	19: 9:18	6.4630	1481.38	99.30	0.00
944	0	19: 9:47	6.4710	1481.25	99.30	0.00
945	0	19:10:12	6.4780	1481.17	99.31	0.00
946	0	19:10:41	6.4860	1481.06	99.31	0.00
947	0	19:11: 9	6.4940	1481.01	99.32	0.00
948	0	19:11:38	6.5020	1480.90	99.32	0.00
949	0	19:12:11	6.5110	1480.80	99.32	0.00
950	0	19:12:36	6.5180	1480.70	99.33	0.00
951	0	19:13: 5	6.5260	1480.62	99.33	0.00
952	0	19:13:33	6.5340	1480.56	99.33	0.00
953	0	19:14: 2	6.5420	1480.46	99.34	0.00
954	0	19:14:35	6.5510	1480.37	99.35	0.00
955	0	19:15: 0	6.5580	1480.27	99.35	0.00
956	0	19:15:29	6.5660	1480.21	99.35	0.00
957	0	19:15:57	6.5740	1480.15	99.36	0.00
958	0	19:16:26	6.5820	1480.06	99.36	0.00
959	0	19:16:59	6.5910	1479.95	99.37	0.00
960	0	19:17:24	6.5980	1479.88	99.37	0.00
961	0	19:17:53	6.6060	1479.81	99.37	0.00

#	TIME	(HRS)	(PSIA)	(Deg. F)	(PSIG)	
964	0	19:19:23	6.6310	1479.58	99.39	0.00
965	0	19:19:48	6.6380	1479.49	99.39	0.00
966	0	19:20:17	6.6460	1479.45	99.39	0.00
967	0	19:20:45	6.6540	1479.40	99.40	0.00
968	0	19:21:14	6.6620	1479.29	99.40	0.00
969	0	19:21:47	6.6710	1479.22	99.41	0.00
970	0	19:22:12	6.6780	1479.14	99.41	0.00
971	0	19:22:41	6.6860	1479.10	99.42	0.00
972	0	19:23:09	6.6940	1479.04	99.42	0.00
973	0	19:23:38	6.7020	1478.95	99.43	0.00
974	0	19:24:11	6.7110	1478.87	99.43	0.00
975	0	19:24:36	6.7180	1478.81	99.43	0.00
976	0	19:25:05	6.7260	1478.77	99.44	0.00
977	0	19:25:33	6.7340	1478.72	99.44	0.00
978	0	19:26:02	6.7420	1478.62	99.45	0.00
979	0	19:26:35	6.7510	1478.55	99.45	0.00
980	0	19:27:00	6.7580	1478.48	99.46	0.00
981	0	19:27:29	6.7660	1478.46	99.46	0.00
982	0	19:27:57	6.7740	1478.40	99.46	0.00
983	0	19:28:30	6.7830	1478.31	99.47	0.00
984	0	19:28:59	6.7910	1478.24	99.47	0.00
985	0	19:29:24	6.7980	1478.19	99.48	0.00
986	0	19:29:53	6.8060	1478.17	99.48	0.00
987	0	19:30:21	6.8140	1478.09	99.49	0.00
988	0	19:30:50	6.8220	1478.03	99.49	0.00
989	0	19:31:23	6.8310	1477.95	99.50	0.00
990	0	19:31:48	6.8380	1477.91	99.50	0.00
991	0	19:32:17	6.8460	1477.88	99.50	0.00
992	0	19:32:45	6.8540	1477.82	99.51	0.00
993	0	19:33:14	6.8620	1477.74	99.51	0.00
994	0	19:33:47	6.8710	1477.68	99.51	0.00
995	0	19:34:12	6.8780	1477.63	99.51	0.00
996	0	19:34:41	6.8860	1477.61	99.52	0.00
997	0	19:35:09	6.8940	1477.55	99.53	0.00
998	0	19:35:38	6.9020	1477.47	99.53	0.00
999	0	19:36:11	6.9110	1477.42	99.53	0.00
1001	0	19:37:05	6.9260	1477.36	99.54	0.00
1003	0	19:38:02	6.9420	1477.23	99.54	0.00
1004	0	19:38:35	6.9510	1477.17	99.55	0.00
1006	0	19:39:29	6.9660	1477.12	99.56	0.00
1008	0	19:40:26	6.9820	1476.99	99.56	0.00
1009	0	19:40:59	6.9910	1476.94	99.57	0.00
1011	0	19:41:53	7.0060	1476.89	99.57	0.00
1013	0	19:42:50	7.0220	1476.76	99.58	0.00
1014	0	19:43:23	7.0310	1476.72	99.59	0.00
1016	0	19:44:17	7.0460	1476.68	99.60	0.00
1018	0	19:45:14	7.0620	1476.55	99.61	0.00
1019	0	19:45:47	7.0710	1476.50	99.61	0.00

REC #	DATE	READ TIME	D1 (HRS)	D2 (PSIA)	D3 (Deg.F)	D4 (PSIG)
1025	0	19:48:36	7.1180	1476.29	99.63	0.00
1027	0	19:49:33	7.1340	1476.20	99.64	0.00
1029	0	19:50:35	7.1510	1476.11	99.65	0.00
1031	0	19:51:29	7.1660	1476.07	99.66	0.00
1033	0	19:52:26	7.1820	1475.96	99.67	0.00
1034	0	19:52:59	7.1910	1475.92	99.67	0.00
1036	0	19:53:53	7.2060	1475.89	99.68	0.00
1038	0	19:54:50	7.2220	1475.79	99.69	0.00
1039	0	19:55:23	7.2310	1475.75	99.69	0.00
1041	0	19:56:17	7.2460	1475.71	99.71	0.00
1043	0	19:57:14	7.2620	1475.61	99.71	0.00
1044	0	19:57:47	7.2710	1475.58	99.72	0.00
1046	0	19:58:41	7.2860	1475.55	99.73	0.00
1048	0	19:59:38	7.3020	1475.45	99.74	0.00
1049	0	20:0:11	7.3110	1475.42	99.74	0.00
1051	0	20:1:5	7.3260	1475.39	99.75	0.00
1053	0	20:2:2	7.3420	1475.30	99.76	0.00
1054	0	20:2:35	7.3510	1475.26	99.76	0.00
1056	0	20:3:29	7.3660	1475.22	99.77	0.00
1058	0	20:4:26	7.3820	1475.13	99.78	0.00
1059	0	20:4:59	7.3910	1475.10	99.78	0.00
1061	0	20:5:53	7.4060	1475.05	99.79	0.00
1063	0	20:6:54	7.4230	1474.96	99.79	0.00
1065	0	20:7:48	7.4380	1474.95	99.79	0.00
1067	0	20:8:45	7.4540	1474.85	99.80	0.00
1069	0	20:9:47	7.4710	1474.81	99.80	0.00
1071	0	20:10:41	7.4860	1474.76	99.81	0.00
1073	0	20:11:38	7.5020	1474.69	99.82	0.00
1074	0	20:12:11	7.5110	1474.69	99.82	0.00
1076	0	20:13:5	7.5260	1474.63	99.83	0.00
1078	0	20:14:2	7.5420	1474.56	99.84	0.00
1079	0	20:14:35	7.5510	1474.56	99.84	0.00
1081	0	20:15:29	7.5660	1474.51	99.84	0.00
1083	0	20:16:26	7.5820	1474.44	99.85	0.00
1084	0	20:16:59	7.5910	1474.44	99.85	0.00
1086	0	20:17:53	7.6060	1474.38	99.86	0.00
1088	0	20:18:50	7.6220	1474.32	99.86	0.00
1089	0	20:19:23	7.6310	1474.33	99.87	0.00
1091	0	20:20:17	7.6460	1474.27	99.87	0.00
1093	0	20:21:14	7.6620	1474.21	99.88	0.00
1094	0	20:21:47	7.6710	1474.22	99.88	0.00
1096	0	20:22:41	7.6860	1474.17	99.89	0.00
1098	0	20:23:38	7.7020	1474.11	99.90	0.00
1099	0	20:24:11	7.7110	1474.11	99.90	0.00
1101	0	20:25:5	7.7260	1474.05	99.91	0.00
1103	0	20:26:6	7.7430	1474.01	99.92	0.00
1105	0	20:27:0	7.7580	1474.01	99.93	0.00
1107	0	20:27:57	7.7740	1473.93	99.94	0.00

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)	
1113	0	20:30:50	7.8220	1473.81	99.96	0.00
1114	0	20:31:23	7.8310	1473.83	99.96	0.00
1116	0	20:32:17	7.8460	1473.78	99.96	0.00
1118	0	20:33:14	7.8620	1473.73	99.97	0.00
1119	0	20:33:47	7.8710	1473.75	99.98	0.00
1121	0	20:34:41	7.8860	1473.68	99.98	0.00
1123	0	20:35:38	7.9020	1473.64	99.99	0.00
1124	0	20:36:11	7.9110	1473.68	100.00	0.00
1126	0	20:37: 5	7.9260	1473.59	100.00	0.00
1128	0	20:38: 2	7.9420	1473.57	100.01	0.00
1129	0	20:38:35	7.9510	1473.60	100.01	0.00
1131	0	20:39:29	7.9660	1473.54	100.02	0.00
1133	0	20:40:26	7.9820	1473.50	100.03	0.00
1134	0	20:40:59	7.9910	1473.52	100.03	0.00
1136	0	20:41:53	8.0060	1473.45	100.04	0.00
1138	0	20:42:50	8.0220	1473.43	100.05	0.00
1139	0	20:43:23	8.0310	1473.45	100.06	0.00
1141	0	20:44:17	8.0460	1473.38	100.06	0.00
1143	0	20:45:18	8.0630	1473.36	100.07	0.00
1145	0	20:46:12	8.0780	1473.34	100.08	0.00
1147	0	20:47: 9	8.0940	1473.29	100.08	0.00
1149	0	20:48:11	8.1110	1473.31	100.09	0.00
1151	0	20:49: 5	8.1260	1473.24	100.10	0.00
1153	0	20:50: 2	8.1420	1473.23	100.11	0.00
1154	0	20:50:35	8.1510	1473.26	100.11	0.00
1156	0	20:51:29	8.1660	1473.19	100.12	0.00
1158	0	20:52:26	8.1820	1473.17	100.12	0.00
1159	0	20:52:59	8.1910	1473.20	100.12	0.00
1161	0	20:53:53	8.2060	1473.13	100.13	0.00
1163	0	20:54:50	8.2220	1473.12	100.14	0.00
1164	0	20:55:23	8.2310	1473.14	100.14	0.00
1166	0	20:56:17	8.2460	1473.07	100.14	0.00
1168	0	20:57:14	8.2620	1473.07	100.15	0.00
1169	0	20:57:47	8.2710	1473.08	100.15	0.00
1171	0	20:58:41	8.2860	1473.02	100.16	0.00
1173	0	20:59:38	8.3020	1473.01	100.17	0.00
1174	0	21: 0:11	8.3110	1473.03	100.17	72.40
1176	0	21: 1: 5	8.3260	1472.95	100.18	0.00
1178	0	21: 2: 2	8.3420	1472.96	100.18	0.00
1179	0	21: 2:35	8.3510	1472.98	100.18	0.00
1181	0	21: 3:29	8.3660	1472.92	100.19	0.00
1183	0	21: 4:26	8.3820	1472.92	100.20	0.00
1184	0	21: 4:59	8.3910	1472.92	100.20	0.00
1186	0	21: 5:53	8.4060	1472.86	100.21	0.00
1188	0	21: 6:50	8.4220	1472.87	100.21	0.00
1189	0	21: 7:23	8.4310	1472.88	100.21	0.00
1191	0	21: 8:17	8.4460	1472.81	100.22	0.00
1193	0	21: 9:14	8.4620	1472.83	100.22	0.00

REC #	DATE	REAR TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
1198	0	21:11:38	8.5020	1472.79	100.24	0.00
1199	0	21:12:11	8.5110	1472.79	100.24	0.00
1201	0	21:13:05	8.5260	1472.73	100.25	0.00
1203	0	21:14:02	8.5420	1472.75	100.25	0.00
1204	0	21:14:35	8.5510	1472.74	100.25	0.00
1206	0	21:15:29	8.5660	1472.69	100.26	0.00
1208	0	21:16:26	8.5820	1472.72	100.27	0.00
1209	0	21:16:59	8.5910	1472.71	100.27	0.00
1211	0	21:17:53	8.6060	1472.66	100.28	0.00
1213	0	21:18:50	8.6220	1472.68	100.29	0.00
1214	0	21:19:23	8.6310	1472.67	100.29	0.00
1216	0	21:20:17	8.6460	1472.62	100.30	0.00
1218	0	21:21:14	8.6620	1472.64	100.30	0.00
1219	0	21:21:47	8.6710	1472.63	100.30	0.00
1221	0	21:22:41	8.6860	1472.59	100.31	0.00
1223	0	21:23:38	8.7020	1472.61	100.31	0.00
1224	0	21:24:11	8.7110	1472.60	100.31	0.00
1226	0	21:25:05	8.7260	1472.55	100.31	0.00
1228	0	21:26:02	8.7420	1472.58	100.32	0.00
1229	0	21:26:35	8.7510	1472.56	100.32	0.00
1231	0	21:27:29	8.7660	1472.51	100.32	0.00
1233	0	21:28:26	8.7820	1472.55	100.33	0.00
1234	0	21:28:59	8.7910	1472.52	100.33	0.00
1236	0	21:29:53	8.8060	1472.48	100.34	0.00
1238	0	21:30:50	8.8220	1472.52	100.34	0.00
1239	0	21:31:23	8.8310	1472.49	100.35	0.00
1241	0	21:32:17	8.8460	1472.45	100.35	0.00
1243	0	21:33:14	8.8620	1472.48	100.36	0.00
1244	0	21:33:47	8.8710	1472.46	100.36	0.00
1246	0	21:34:41	8.8860	1472.42	100.37	0.00
1248	0	21:35:38	8.9020	1472.46	100.38	0.00
1249	0	21:36:11	8.9110	1472.43	100.38	0.00
1251	0	21:37:05	8.9260	1472.40	100.39	0.00
1253	0	21:38:02	8.9420	1472.43	100.39	0.00
1254	0	21:38:35	8.9510	1472.40	100.39	0.00
1256	0	21:39:29	8.9660	1472.37	100.40	0.00
1258	0	21:40:26	8.9820	1472.41	100.40	0.00
1259	0	21:40:59	8.9910	1472.37	100.40	0.00
1261	0	21:41:53	9.0060	1472.33	100.41	0.00
1263	0	21:42:50	9.0220	1472.38	100.42	0.00
1264	0	21:43:23	9.0310	1472.34	100.42	0.00
1266	0	21:44:17	9.0460	1472.30	100.42	0.00
1268	0	21:45:14	9.0620	1472.34	100.42	0.00
1269	0	21:45:47	9.0710	1472.31	100.42	0.00
1271	0	21:46:41	9.0860	1472.28	100.43	0.00
1273	0	21:47:38	9.1020	1472.32	100.44	0.00
1274	0	21:48:11	9.1110	1472.29	100.44	0.00
1276	0	21:49:05	9.1260	1472.26	100.45	0.00

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
1281	0	21:51:29	9.1660	1472.23	100.47	0.00
1283	0	21:52:26	9.1820	1472.27	100.48	0.00
1284	0	21:52:59	9.1910	1472.24	100.48	0.00
1286	0	21:53:53	9.2060	1472.21	100.48	0.00
1288	0	21:54:50	9.2220	1472.24	100.49	0.00
1289	0	21:55:23	9.2310	1472.20	100.49	0.00
1291	0	21:56:17	9.2460	1472.18	100.49	0.00
1293	0	21:57:14	9.2620	1472.21	100.49	0.00
1294	0	21:57:47	9.2710	1472.18	100.50	0.00
1296	0	21:58:41	9.2860	1472.16	100.50	0.00
1298	0	21:59:38	9.3020	1472.19	100.50	0.00
1299	0	22: 0:11	9.3110	1472.16	100.51	71.60
1301	0	22: 1: 5	9.3260	1472.14	100.51	0.00
1303	0	22: 2: 2	9.3420	1472.17	100.52	0.00
1304	0	22: 2:35	9.3510	1472.14	100.52	0.00
1306	0	22: 3:29	9.3660	1472.11	100.52	0.00
1308	0	22: 4:26	9.3820	1472.14	100.53	0.00
1309	0	22: 4:59	9.3910	1472.11	100.53	0.00
1311	0	22: 5:53	9.4060	1472.09	100.53	0.00
1313	0	22: 6:50	9.4220	1472.12	100.54	0.00
1314	0	22: 7:23	9.4310	1472.09	100.54	0.00
1316	0	22: 8:17	9.4460	1472.07	100.55	0.00
1318	0	22: 9:18	9.4630	1472.10	100.56	0.00
1320	0	22:10:12	9.4780	1472.05	100.56	0.00
1322	0	22:11: 9	9.4940	1472.08	100.57	0.00
1324	0	22:12:11	9.5110	1472.04	100.57	0.00
1326	0	22:13: 5	9.5260	1472.03	100.57	0.00
1328	0	22:14: 2	9.5420	1472.06	100.58	0.00
1329	0	22:14:35	9.5510	1472.03	100.59	0.00
1331	0	22:15:29	9.5660	1472.01	100.60	0.00
1333	0	22:16:26	9.5820	1472.03	100.60	0.00
1334	0	22:16:59	9.5910	1472.00	100.60	0.00
1336	0	22:17:53	9.6060	1471.99	100.60	0.00
1338	0	22:18:50	9.6220	1472.01	100.61	0.00
1339	0	22:19:23	9.6310	1471.98	100.61	0.00
1341	0	22:20:17	9.6460	1471.97	100.62	0.00
1343	0	22:21:14	9.6620	1471.98	100.62	0.00
1344	0	22:21:47	9.6710	1471.96	100.63	0.00
1346	0	22:22:41	9.6860	1471.96	100.63	0.00
1348	0	22:23:38	9.7020	1471.97	100.64	0.00
1349	0	22:24:11	9.7110	1471.94	100.65	0.00
1351	0	22:25: 5	9.7260	1471.94	100.65	0.00
1353	0	22:26: 2	9.7420	1471.95	100.66	0.00
1354	0	22:26:35	9.7510	1471.92	100.66	0.00
1356	0	22:27:29	9.7660	1471.92	100.67	0.00
1358	0	22:28:30	9.7830	1471.93	100.68	0.00
1360	0	22:29:24	9.7980	1471.89	100.68	0.00
1362	0	22:30:21	9.8140	1471.93	100.68	0.00

REC #	DAY	REAL TIME	DI (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
1368	0	22:33:14	9.8620	1471.89	100.71	0.00
1369	0	22:33:47	9.8710	1471.86	100.71	0.00
1371	0	22:34:41	9.8860	1471.86	100.71	0.00
1373	0	22:35:38	9.9020	1471.86	100.71	0.00
1374	0	22:36:11	9.9110	1471.84	100.71	0.00
1376	0	22:37:05	9.9260	1471.85	100.72	0.00
1378	0	22:38:02	9.9420	1471.85	100.72	0.00
1379	0	22:38:35	9.9510	1471.83	100.72	0.00
1381	0	22:39:29	9.9660	1471.83	100.73	0.00
1383	0	22:40:26	9.9820	1471.83	100.74	0.00
1384	0	22:40:59	9.9910	1471.81	100.74	0.00
1386	0	22:41:53	10.0060	1471.82	100.74	0.00
1388	0	22:42:50	10.0220	1471.81	100.75	0.00
1389	0	22:43:23	10.0310	1471.79	100.75	0.00
1391	0	22:44:17	10.0460	1471.81	100.75	0.00
1393	0	22:45:14	10.0620	1471.80	100.75	0.00
1394	0	22:45:47	10.0710	1471.77	100.76	0.00
1396	0	22:46:41	10.0860	1471.79	100.76	0.00
1398	0	22:47:42	10.1030	1471.78	100.76	0.00
1400	0	22:48:36	10.1180	1471.75	100.76	0.00
1402	0	22:49:33	10.1340	1471.78	100.76	0.00
1404	0	22:50:35	10.1510	1471.73	100.77	0.00
1406	0	22:51:29	10.1660	1471.76	100.78	0.00
1408	0	22:52:26	10.1820	1471.74	100.78	0.00
1409	0	22:52:59	10.1910	1471.72	100.79	0.00
1411	0	22:53:53	10.2060	1471.75	100.79	0.00
1413	0	22:54:50	10.2220	1471.73	100.80	0.00
1414	0	22:55:23	10.2310	1471.71	100.80	0.00
1416	0	22:56:17	10.2460	1471.73	100.80	0.00
1418	0	22:57:14	10.2620	1471.71	100.81	0.00
1419	0	22:57:47	10.2710	1471.69	100.81	0.00
1421	0	22:58:41	10.2860	1471.72	100.82	0.00
1423	0	22:59:38	10.3020	1471.69	100.83	0.00
1424	0	23:00:11	10.3110	1471.68	100.83	0.00
1426	0	23:01:05	10.3260	1471.70	100.84	0.00
1428	0	23:02:02	10.3420	1471.67	100.84	0.00
1429	0	23:02:35	10.3510	1471.66	100.84	0.00
1431	0	23:03:29	10.3660	1471.69	100.85	0.00
1433	0	23:04:26	10.3820	1471.66	100.85	0.00
1434	0	23:05:19	10.3910	1471.64	100.86	0.00
1436	0	23:05:53	10.4060	1471.67	100.86	0.00
1438	0	23:06:54	10.4230	1471.64	100.86	0.00
1440	0	23:07:48	10.4380	1471.62	100.86	0.00
1442	0	23:08:45	10.4540	1471.64	100.86	0.00
1444	0	23:09:47	10.4710	1471.60	100.86	0.00
1446	0	23:10:41	10.4860	1471.65	100.86	0.00
1448	0	23:11:38	10.5020	1471.61	100.86	0.00
1449	0	23:12:11	10.5110	1471.59	100.87	0.00

#	TIME	DI (HRS)	DPR (PSIA)	BHT (Deg. F)	WHP (PSIG)	
1454	0	23:14:35	10.5510	1471.57	100.87	0.00
1456	0	23:15:29	10.5660	1471.61	100.88	0.00
1458	0	23:16:26	10.5820	1471.57	100.88	0.00
1459	0	23:16:59	10.5910	1471.56	100.88	0.00
1461	0	23:17:53	10.6060	1471.60	100.88	0.00
1463	0	23:18:50	10.6220	1471.56	100.88	0.00
1464	0	23:19:23	10.6310	1471.55	100.89	0.00
1466	0	23:20:17	10.6460	1471.59	100.89	0.00
1468	0	23:21:14	10.6620	1471.55	100.90	0.00
1469	0	23:21:47	10.6710	1471.54	100.90	0.00
1471	0	23:22:41	10.6860	1471.58	100.91	0.00
1473	0	23:23:38	10.7020	1471.53	100.92	0.00
1474	0	23:24:11	10.7110	1471.52	100.93	0.00
1476	0	23:25:05	10.7260	1471.57	100.93	0.00
1478	0	23:26:06	10.7430	1471.52	100.94	0.00
1480	0	23:27:00	10.7580	1471.51	100.94	0.00
1482	0	23:27:57	10.7740	1471.52	100.95	0.00
1484	0	23:28:59	10.7910	1471.49	100.96	0.00
1486	0	23:29:53	10.8060	1471.53	100.96	0.00
1488	0	23:30:50	10.8220	1471.48	100.96	0.00
1489	0	23:31:23	10.8310	1471.47	100.96	0.00
1491	0	23:32:17	10.8460	1471.52	100.96	0.00
1493	0	23:33:14	10.8620	1471.47	100.96	0.00
1494	0	23:33:47	10.8710	1471.46	100.96	0.00
1496	0	23:34:41	10.8860	1471.50	100.97	0.00
1498	0	23:35:38	10.9020	1471.45	100.97	0.00
1499	0	23:36:11	10.9110	1471.45	100.97	0.00
1502	0	23:37:33	10.9340	1471.46	100.98	0.00
1504	0	23:38:35	10.9510	1471.44	100.98	0.00
1507	0	23:39:57	10.9740	1471.44	100.98	0.00
1509	0	23:40:59	10.9910	1471.42	100.99	0.00
1512	0	23:42:21	11.0140	1471.43	100.99	0.00
1514	0	23:43:23	11.0310	1471.41	101.00	0.00
1517	0	23:44:45	11.0540	1471.42	101.01	0.00
1519	0	23:45:47	11.0710	1471.40	101.01	0.00
1522	0	23:47:09	11.0940	1471.38	101.02	0.00
1524	0	23:48:11	11.1110	1471.40	101.02	0.00
1527	0	23:49:33	11.1340	1471.39	101.03	0.00
1529	0	23:50:35	11.1510	1471.36	101.03	0.00
1532	0	23:51:57	11.1740	1471.38	101.03	0.00
1534	0	23:52:59	11.1910	1471.36	101.04	0.00
1537	0	23:54:21	11.2140	1471.37	101.05	0.00
1539	0	23:55:23	11.2310	1471.34	101.05	0.00
1542	0	23:56:45	11.2540	1471.35	101.07	0.00
1544	0	23:57:47	11.2710	1471.33	101.08	0.00
1547	0	23:59:09	11.2940	1471.34	101.08	0.00
1549	1	0:0:11	11.3110	1471.32	101.08	70.40

[Wednesday: Oct. 25, 1995]

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
1557	0: 3:57	11.3740	1471.31	101.08	0.00
1559	0: 4:59	11.3910	1471.30	101.09	0.00
1562	0: 6:21	11.4140	1471.29	101.09	0.00
1564	0: 7:23	11.4310	1471.28	101.10	0.00
1567	0: 8:45	11.4540	1471.29	101.11	0.00
1569	0: 9:47	11.4710	1471.27	101.12	0.00
1572	0:11: 9	11.4940	1471.27	101.13	0.00
1574	0:12:11	11.5110	1471.26	101.13	0.00
1577	0:13:33	11.5340	1471.26	101.13	0.00
1579	0:14:35	11.5510	1471.25	101.13	0.00
1582	0:15:57	11.5740	1471.24	101.13	0.00
1584	0:16:59	11.5910	1471.23	101.13	0.00
1587	0:18:21	11.6140	1471.23	101.13	0.00
1589	0:19:23	11.6310	1471.22	101.13	0.00
1592	0:20:45	11.6540	1471.23	101.14	0.00
1594	0:21:47	11.6710	1471.22	101.15	0.00
1597	0:23: 9	11.6940	1471.20	101.15	0.00
1599	0:24:11	11.7110	1471.20	101.16	0.00
1602	0:25:33	11.7340	1471.19	101.16	0.00
1604	0:26:35	11.7510	1471.19	101.16	0.00
1607	0:27:57	11.7740	1471.18	101.17	0.00
1609	0:28:59	11.7910	1471.19	101.18	0.00
1612	0:30:21	11.8140	1471.17	101.19	0.00
1614	0:31:23	11.8310	1471.18	101.20	0.00
1617	0:32:45	11.8540	1471.16	101.21	0.00
1619	0:33:47	11.8710	1471.17	101.21	0.00
1622	0:35: 9	11.8940	1471.15	101.21	0.00
1624	0:36:11	11.9110	1471.15	101.22	0.00
1627	0:37:33	11.9340	1471.13	101.22	0.00
1629	0:38:35	11.9510	1471.14	101.23	0.00
1632	0:39:57	11.9740	1471.13	101.24	0.00
1634	0:40:59	11.9910	1471.13	101.24	0.00
1637	0:42:21	12.0140	1471.11	101.24	0.00
1639	0:43:23	12.0310	1471.12	101.24	0.00
1642	0:44:45	12.0540	1471.10	101.24	0.00
1644	0:45:47	12.0710	1471.11	101.24	0.00
1647	0:47: 9	12.0940	1471.09	101.24	0.00
1649	0:48:11	12.1110	1471.10	101.25	0.00
1652	0:49:33	12.1340	1471.08	101.26	0.00
1654	0:50:35	12.1510	1471.09	101.26	0.00
1657	0:51:57	12.1740	1471.07	101.26	0.00
1659	0:52:59	12.1910	1471.08	101.27	0.00
1662	0:54:21	12.2140	1471.06	101.27	0.00
1664	0:55:23	12.2310	1471.07	101.27	0.00
1667	0:56:45	12.2540	1471.04	101.27	0.00
1669	0:57:47	12.2710	1471.06	101.28	0.00
1672	0:59: 9	12.2940	1471.03	101.28	0.00
1674	1: 0:11	12.3110	1471.06	101.28	0.00
1677	1: 1:33	12.3340	1471.02	101.28	0.00

#	TIME	(HRS)	(PSIA)	(Deg. F)	(PSIG)
1682	1: 3:57	12.3740	1471.01	101.31	0.00
1684	1: 4:59	12.3910	1471.04	101.31	0.00
1687	1: 6:21	12.4140	1471.00	101.31	0.00
1689	1: 7:23	12.4310	1471.02	101.30	0.00
1692	1: 8:45	12.4540	1470.99	101.31	0.00
1694	1: 9:47	12.4710	1471.03	101.32	0.00
1697	1:11: 9	12.4940	1470.99	101.34	0.00
1699	1:12:11	12.5110	1471.02	101.36	0.00
1702	1:13:33	12.5340	1470.97	101.36	0.00
1704	1:14:35	12.5510	1471.00	101.36	0.00
1707	1:15:57	12.5740	1470.97	101.37	0.00
1709	1:16:59	12.5910	1471.00	101.38	0.00
1712	1:18:21	12.6140	1470.95	101.38	0.00
1714	1:19:23	12.6310	1470.98	101.39	0.00
1717	1:20:45	12.6540	1470.94	101.38	0.00
1719	1:21:47	12.6710	1470.98	101.39	0.00
1722	1:23: 9	12.6940	1470.93	101.39	0.00
1724	1:24:11	12.7110	1470.96	101.39	0.00
1727	1:25:33	12.7340	1470.92	101.39	0.00
1729	1:26:35	12.7510	1470.96	101.40	0.00
1732	1:27:57	12.7740	1470.91	101.40	0.00
1734	1:28:59	12.7910	1470.95	101.40	0.00
1737	1:30:21	12.8140	1470.90	101.40	0.00
1739	1:31:23	12.8310	1470.94	101.41	0.00
1742	1:32:45	12.8540	1470.89	101.42	0.00
1744	1:33:47	12.8710	1470.93	101.41	0.00
1747	1:35: 9	12.8940	1470.88	101.41	0.00
1749	1:36:11	12.9110	1470.92	101.41	0.00
1752	1:37:33	12.9340	1470.87	101.41	0.00
1754	1:38:35	12.9510	1470.91	101.42	0.00
1757	1:39:57	12.9740	1470.86	101.43	0.00
1759	1:40:59	12.9910	1470.90	101.43	0.00
1762	1:42:21	13.0140	1470.85	101.44	0.00
1764	1:43:23	13.0310	1470.89	101.45	0.00
1767	1:44:45	13.0540	1470.85	101.46	0.00
1769	1:45:47	13.0710	1470.89	101.47	0.00
1772	1:47: 9	13.0940	1470.83	101.47	0.00
1774	1:48:11	13.1110	1470.88	101.48	0.00
1777	1:49:33	13.1340	1470.82	101.48	0.00
1779	1:50:35	13.1510	1470.87	101.48	0.00
1782	1:51:57	13.1740	1470.81	101.49	0.00
1784	1:52:59	13.1910	1470.85	101.49	0.00
1787	1:54:21	13.2140	1470.80	101.49	0.00
1789	1:55:23	13.2310	1470.84	101.49	0.00
1792	1:56:45	13.2540	1470.80	101.49	0.00
1794	1:57:47	13.2710	1470.84	101.50	0.00
1797	1:59: 9	13.2940	1470.78	101.50	0.00
1799	2: 0:11	13.3110	1470.83	101.50	70.10

#	TIME	(HRS)	DIP (PSIA)	BHT (Deg. F)	WHP (PSIG)
1807	2: 3:57	13.3740	1470.77	101.50	0.00
1809	2: 4:59	13.3910	1470.81	101.50	0.00
1812	2: 6:21	13.4140	1470.76	101.51	0.00
1814	2: 7:23	13.4310	1470.81	101.52	0.00
1817	2: 8:45	13.4540	1470.76	101.53	0.00
1819	2: 9:47	13.4710	1470.80	101.54	0.00
1822	2:11: 9	13.4940	1470.74	101.55	0.00
1824	2:12:11	13.5110	1470.79	101.56	0.00
1827	2:13:33	13.5340	1470.73	101.55	0.00
1829	2:14:35	13.5510	1470.78	101.56	0.00
1832	2:15:57	13.5740	1470.73	101.56	0.00
1834	2:16:59	13.5910	1470.78	101.57	0.00
1837	2:18:21	13.6140	1470.71	101.58	0.00
1839	2:19:23	13.6310	1470.76	101.58	0.00
1842	2:20:45	13.6540	1470.70	101.58	0.00
1844	2:21:47	13.6710	1470.75	101.58	0.00
1847	2:23: 9	13.6940	1470.70	101.58	0.00
1849	2:24:11	13.7110	1470.75	101.59	0.00
1852	2:25:33	13.7340	1470.68	101.59	0.00
1854	2:26:35	13.7510	1470.73	101.59	0.00
1857	2:27:57	13.7740	1470.68	101.60	0.00
1859	2:28:59	13.7910	1470.72	101.60	0.00
1862	2:30:21	13.8140	1470.67	101.60	0.00
1864	2:31:23	13.8310	1470.72	101.61	0.00
1867	2:32:45	13.8540	1470.66	101.62	0.00
1869	2:33:47	13.8710	1470.71	101.64	0.00
1872	2:35: 9	13.8940	1470.67	101.65	0.00
1874	2:36:11	13.9110	1470.71	101.65	0.00
1877	2:37:33	13.9340	1470.65	101.65	0.00
1879	2:38:35	13.9510	1470.69	101.64	0.00
1882	2:39:57	13.9740	1470.64	101.63	0.00
1884	2:40:59	13.9910	1470.69	101.63	0.00
1887	2:42:21	14.0140	1470.63	101.63	0.00
1889	2:43:23	14.0310	1470.68	101.63	0.00
1892	2:44:45	14.0540	1470.62	101.64	0.00
1894	2:45:47	14.0710	1470.67	101.64	0.00
1897	2:47: 9	14.0940	1470.62	101.65	0.00
1899	2:48:11	14.1110	1470.66	101.65	0.00
1902	2:49:33	14.1340	1470.61	101.65	0.00
1904	2:50:35	14.1510	1470.66	101.66	0.00
1907	2:51:57	14.1740	1470.60	101.66	0.00
1909	2:52:59	14.1910	1470.65	101.67	0.00
1912	2:54:21	14.2140	1470.59	101.68	0.00
1914	2:55:23	14.2310	1470.64	101.68	0.00
1917	2:56:45	14.2540	1470.58	101.69	0.00
1919	2:57:47	14.2710	1470.63	101.69	0.00
1922	2:59: 9	14.2940	1470.58	101.70	0.00
1924	3: 0:11	14.3110	1470.62	101.70	0.00
1927					

REC #	DAY	REAU TIME	DI (HRS)	BNP (PSIA)	DI (Deg. F)	WTR (PSIG)
1932	1	3: 3:57	14.3740	1470.56	101.71	0.00
1934	1	3: 4:59	14.3910	1470.60	101.71	0.00
1937	1	3: 6:21	14.4140	1470.55	101.71	0.00
1939	1	3: 7:23	14.4310	1470.60	101.72	0.00
1942	1	3: 8:45	14.4540	1470.55	101.74	0.00
1944	1	3: 9:47	14.4710	1470.60	101.74	0.00
1947	1	3: 11: 9	14.4940	1470.53	101.75	0.00
1949	1	3: 12: 11	14.5110	1470.57	101.74	0.00
1952	1	3: 13: 33	14.5340	1470.53	101.74	0.00
1954	1	3: 14: 35	14.5510	1470.57	101.74	0.00
1957	1	3: 15: 57	14.5740	1470.51	101.74	0.00
1959	1	3: 16: 59	14.5910	1470.57	101.74	0.00
1962	1	3: 18: 21	14.6140	1470.51	101.76	0.00
1964	1	3: 19: 23	14.6310	1470.56	101.76	0.00
1967	1	3: 20: 45	14.6540	1470.50	101.77	0.00
1969	1	3: 21: 47	14.6710	1470.55	101.77	0.00
1972	1	3: 23: 9	14.6940	1470.50	101.78	0.00
1974	1	3: 24: 11	14.7110	1470.54	101.78	0.00
1977	1	3: 25: 33	14.7340	1470.49	101.78	0.00
1979	1	3: 26: 35	14.7510	1470.54	101.79	0.00
1982	1	3: 27: 57	14.7740	1470.47	101.79	0.00
1984	1	3: 28: 59	14.7910	1470.53	101.79	0.00
1987	1	3: 30: 21	14.8140	1470.47	101.79	0.00
1989	1	3: 31: 23	14.8310	1470.52	101.79	0.00
1992	1	3: 32: 45	14.8540	1470.46	101.79	0.00
1994	1	3: 33: 47	14.8710	1470.51	101.79	0.00
1997	1	3: 35: 9	14.8940	1470.45	101.80	0.00
1999	1	3: 36: 11	14.9110	1470.51	101.81	0.00
2004	1	3: 38: 35	14.9510	1470.50	101.83	0.00
2009	1	3: 40: 59	14.9910	1470.49	101.83	0.00
2014	1	3: 43: 23	15.0310	1470.48	101.83	0.00
2019	1	3: 45: 47	15.0710	1470.47	101.82	0.00
2024	1	3: 48: 11	15.1110	1470.47	101.83	0.00
2029	1	3: 50: 35	15.1510	1470.46	101.84	0.00
2034	1	3: 52: 59	15.1910	1470.46	101.85	0.00
2039	1	3: 55: 23	15.2310	1470.45	101.87	0.00
2044	1	3: 57: 47	15.2710	1470.44	101.89	0.00
2049	1	4: 0: 11	15.3110	1470.43	101.89	69.80
2054	1	4: 2: 35	15.3510	1470.42	101.88	0.00
2059	1	4: 4: 59	15.3910	1470.42	101.88	0.00
2064	1	4: 7: 23	15.4310	1470.41	101.89	0.00
2069	1	4: 9: 47	15.4710	1470.40	101.90	0.00
2074	1	4: 12: 11	15.5110	1470.39	101.90	0.00
2079	1	4: 14: 35	15.5510	1470.39	101.91	0.00
2084	1	4: 16: 59	15.5910	1470.38	101.91	0.00
2089	1	4: 19: 23	15.6310	1470.38	101.92	0.00
2094	1	4: 21: 47	15.6710	1470.37	101.93	0.00
2099	1	4: 24: 11	15.7110	1470.36	101.95	0.00

2114	1	4:31:23	15.8310	1470.34	101.97	0.00
2119	1	4:33:47	15.8710	1470.33	101.97	0.00
2124	1	4:36:11	15.9110	1470.32	101.98	0.00
2129	1	4:38:35	15.9510	1470.32	101.99	0.00
2134	1	4:40:59	15.9910	1470.31	101.99	0.00
2139	1	4:43:23	16.0310	1470.30	101.99	0.00
2144	1	4:45:47	16.0710	1470.31	102.00	0.00
2149	1	4:48:11	16.1110	1470.29	102.02	0.00
2154	1	4:50:35	16.1510	1470.29	102.03	0.00
2159	1	4:52:59	16.1910	1470.27	102.04	0.00
2164	1	4:55:23	16.2310	1470.27	102.02	0.00
2169	1	4:57:47	16.2710	1470.26	102.03	0.00
2174	1	5: 0:11	16.3110	1470.26	102.03	0.00
2179	1	5: 2:35	16.3510	1470.25	102.04	0.00
2184	1	5: 4:59	16.3910	1470.25	102.04	0.00
2189	1	5: 7:23	16.4310	1470.24	102.06	0.00
2194	1	5: 9:47	16.4710	1470.23	102.08	0.00
2199	1	5:12:11	16.5110	1470.22	102.07	0.00
2204	1	5:14:35	16.5510	1470.22	102.08	0.00
2209	1	5:16:59	16.5910	1470.21	102.08	0.00
2214	1	5:19:23	16.6310	1470.20	102.09	0.00
2219	1	5:21:47	16.6710	1470.19	102.10	0.00
2224	1	5:24:11	16.7110	1470.19	102.11	0.00
2229	1	5:26:35	16.7510	1470.18	102.11	0.00
2234	1	5:28:59	16.7910	1470.17	102.13	0.00
2239	1	5:31:23	16.8310	1470.16	102.13	0.00
2244	1	5:33:47	16.8710	1470.16	102.13	0.00
2249	1	5:36:11	16.9110	1470.15	102.14	0.00
2254	1	5:38:35	16.9510	1470.15	102.14	0.00
2259	1	5:40:59	16.9910	1470.14	102.15	0.00
2264	1	5:43:23	17.0310	1470.13	102.15	0.00
2269	1	5:45:47	17.0710	1470.13	102.15	0.00
2274	1	5:48:11	17.1110	1470.12	102.18	0.00
2279	1	5:50:35	17.1510	1470.11	102.19	0.00
2284	1	5:52:59	17.1910	1470.10	102.19	0.00
2289	1	5:55:23	17.2310	1470.10	102.19	0.00
2294	1	5:57:47	17.2710	1470.09	102.20	0.00
Continuing to monitor Bottom-Hole Fall-Off Press.						
2299	1	6: 0:11	17.3110	1470.09	102.20	69.50
2304	1	6: 2:35	17.3510	1470.08	102.21	0.00
2309	1	6: 4:59	17.3910	1470.07	102.20	0.00
2314	1	6: 7:23	17.4310	1470.06	102.21	0.00
2319	1	6: 9:47	17.4710	1470.06	102.22	0.00
2324	1	6:12:11	17.5110	1470.05	102.23	0.00
2329	1	6:14:35	17.5510	1470.05	102.24	0.00
2334	1	6:16:59	17.5910	1470.04	102.25	0.00
2339	1	6:19:23	17.6310	1470.02	102.24	0.00
2344	1	6:21:47	17.6710	1470.03	102.25	0.00
2349	1	6:24:11	17.7110	1470.02	102.25	0.00
2354	1	6:26:45	17.7540	1470.02	102.25	0.00

REC #	DAY	REAL TIME	DT (HRS)	BNF (PSIA)	DT (Deg.F)	(PSIG)
2356	1	6:29:38	17.8020	1470.03	102.26	0.00
2359	1	6:32:35	17.8510	1470.01	102.28	0.00
2362	1	6:35:24	17.8980	1469.98	102.29	0.00
2365	1	6:38:17	17.9460	1469.97	102.28	0.00
2368	1	6:41:09	17.9940	1469.97	102.28	0.00
2371	1	6:44:02	18.0420	1470.00	102.29	0.00
2374	1	6:46:59	18.0910	1469.97	102.29	0.00
2377	1	6:49:48	18.1380	1469.95	102.31	0.00
2380	1	6:52:41	18.1860	1469.93	102.31	0.00
2383	1	6:55:33	18.2340	1469.94	102.32	0.00
2386	1	6:58:26	18.2820	1469.97	102.32	0.00
2389	1	7:01:23	18.3310	1469.94	102.32	0.00
2392	1	7:04:12	18.3780	1469.92	102.32	0.00
2395	1	7:07:05	18.4260	1469.91	102.33	0.00
2398	1	7:09:57	18.4740	1469.90	102.35	0.00
2401	1	7:12:50	18.5220	1469.93	102.34	0.00
2404	1	7:15:47	18.5710	1469.92	102.35	0.00
2407	1	7:18:36	18.6180	1469.89	102.36	0.00
2410	1	7:21:29	18.6660	1469.87	102.36	0.00
2413	1	7:24:21	18.7140	1469.86	102.36	0.00
2416	1	7:27:14	18.7620	1469.89	102.38	0.00
2419	1	7:30:11	18.8110	1469.89	102.40	0.00
2422	1	7:33:00	18.8580	1469.85	102.40	0.00
2425	1	7:35:53	18.9060	1469.84	102.41	0.00
2428	1	7:38:45	18.9540	1469.83	102.41	0.00
2431	1	7:41:38	19.0020	1469.85	102.42	0.00
2434	1	7:44:35	19.0510	1469.86	102.42	0.00
2437	1	7:47:24	19.0980	1469.83	102.42	0.00
2440	1	7:50:17	19.1460	1469.81	102.43	0.00
2443	1	7:53:09	19.1940	1469.80	102.43	0.00
2446	1	7:55:52	19.2420	1469.82	102.44	0.00
2449	1	7:58:59	19.2910	1469.84	102.46	0.00
2452	1	8:01:48	19.3380	1469.80	102.48	0.00
2455	1	8:04:41	19.3860	1469.78	102.46	0.00
2458	1	8:07:33	19.4340	1469.77	102.47	0.00
2461	1	8:10:26	19.4820	1469.78	102.47	0.00
2464	1	8:13:23	19.5310	1469.80	102.47	0.00
2467	1	8:16:12	19.5780	1469.80	102.48	0.00
2470	1	8:19:05	19.6260	1469.77	102.48	0.00
2473	1	8:21:57	19.6740	1469.75	102.49	0.00
2476	1	8:24:50	19.7220	1469.74	102.50	0.00
2479	1	8:27:47	19.7710	1469.77	102.51	0.00
2482	1	8:30:36	19.8180	1469.75	102.51	0.00
2485	1	8:33:29	19.8660	1469.72	102.52	0.00
2488	1	8:36:21	19.9140	1469.71	102.53	0.00
2491	1	8:39:18	19.9630	1469.71	102.54	0.00
2494	1	8:42:11	20.0110	1469.74	102.56	0.00
2497	1	8:45:04	20.0580	1469.73	102.56	0.00

#	TIME	(HRS)	(PSIA)	(Deg. F)	(PSIG)
2509	8:56:35	20.2510	1469.71	102.56	0.00
2513	9: 0:21	20.3140	1469.66	102.57	0.00
2517	9: 4:12	20.3780	1469.69	102.59	0.00
2521	9: 8: 2	20.4420	1469.64	102.59	0.00
2525	9:11:53	20.5060	1469.65	102.60	0.00
2529	9:15:47	20.5710	1469.66	102.61	0.00
2533	9:19:33	20.6340	1469.63	102.61	0.00
2537	9:23:24	20.6980	1469.66	102.63	0.00
2541	9:27:14	20.7620	1469.61	102.62	0.00
2545	9:31: 5	20.8260	1469.62	102.62	0.00
2549	9:34:59	20.8910	1469.63	102.63	0.00
2553	9:38:45	20.9540	1469.59	102.65	0.00
2557	9:42:36	21.0180	1469.62	102.65	0.00
2561	9:46:26	21.0820	1469.58	102.67	0.00
2565	9:50:17	21.1460	1469.58	102.68	0.00
2569	9:54:11	21.2110	1469.59	102.68	0.00
2573	9:57:57	21.2740	1469.55	102.70	0.00
2577	10: 1:48	21.3380	1469.58	102.69	0.00
2581	10: 5:38	21.4020	1469.54	102.69	0.00
2585	10: 9:29	21.4660	1469.54	102.70	0.00
2589	10:13:23	21.5310	1469.56	102.72	0.00
2593	10:17: 9	21.5940	1469.52	102.72	0.00
2597	10:21: 0	21.6580	1469.55	102.74	0.00
2601	10:24:50	21.7220	1469.50	102.74	0.00
2605	10:28:41	21.7860	1469.51	102.75	0.00
2609	10:32:35	21.8510	1469.53	102.75	0.00
2613	10:36:21	21.9140	1469.48	102.76	0.00
2617	10:40:12	21.9780	1469.50	102.77	0.00
2621	10:44: 2	22.0420	1469.47	102.78	0.00
2625	10:47:53	22.1060	1469.46	102.78	0.00
2629	10:51:47	22.1710	1469.50	102.78	0.00
2633	10:55:33	22.2340	1469.45	102.78	0.00
2637	10:59:24	22.2980	1469.46	102.79	0.00
2641	11: 3:14	22.3620	1469.44	102.80	0.00
2645	11: 7: 5	22.4260	1469.43	102.81	0.00
2649	11:10:59	22.4910	1469.46	102.82	0.00
2653	11:14:45	22.5540	1469.41	102.82	0.00
2657	11:18:36	22.6180	1469.42	102.83	0.00
2661	11:22:26	22.6820	1469.41	102.84	0.00
2665	11:26:17	22.7460	1469.39	102.84	0.00
2669	11:30:11	22.8110	1469.43	102.85	0.00
2673	11:33:57	22.8740	1469.38	102.86	0.00
2677	11:37:48	22.9380	1469.39	102.86	0.00
2681	11:41:38	23.0020	1469.38	102.86	0.00
2685	11:45:29	23.0660	1469.36	102.86	0.00
2689	11:49:23	23.1310	1469.40	102.88	0.00
2693	11:53: 9	23.1940	1469.34	102.88	0.00
2697	11:57: 0	23.2580	1469.35	102.90	0.00
2701	12: 0:00	23.3220	1469.35	102.90	0.00

#	TIME	(HRS)	(PSIA)	BHT (Deg. F)	WHP (PSIG)
2709	12: 8:35	23.4510	1469.36	102.90	0.00
2713	12:12:21	23.5140	1469.31	102.91	0.00
2717	12:16:12	23.5780	1469.32	102.91	0.00
2721	12:20: 2	23.6420	1469.32	102.92	0.00
2725	12:23:53	23.7060	1469.29	102.92	0.00
2729	12:27:47	23.7710	1469.33	102.93	0.00
2733	12:31:33	23.8340	1469.28	102.94	0.00
2737	12:35:24	23.8980	1469.28	102.94	0.00
2741	12:39:14	23.9620	1469.29	102.96	0.00
2745	12:43: 5	24.0260	1469.26	102.95	0.00
2749	12:46:59	24.0910	1469.30	102.96	0.00
2753	12:50:45	24.1540	1469.24	102.97	0.00
2757	12:54:36	24.2180	1469.26	102.98	0.00
2761	12:58:26	24.2820	1469.25	102.99	0.00
2765	13: 2:17	24.3460	1469.22	102.99	0.00
2769	13: 6:11	24.4110	1469.27	102.99	0.00
2773	13: 9:57	24.4740	1469.20	103.00	0.00
2777	13:13:48	24.5380	1469.23	103.01	0.00
2781	13:17:38	24.6020	1469.21	103.01	0.00
2785	13:21:29	24.6660	1469.20	103.02	0.00
2789	13:25:23	24.7310	1469.22	103.03	0.00
2793	13:29: 9	24.7940	1469.18	103.03	0.00
2797	13:33: 0	24.8580	1469.21	103.03	0.00
2801	13:36:50	24.9220	1469.16	103.04	0.00
2805	13:40:41	24.9860	1469.18	103.04	0.00
2809	13:44:35	25.0510	1469.17	103.05	0.00
2813	13:48:21	25.1140	1469.15	103.06	0.00
2817	13:52:12	25.1780	1469.19	103.06	0.00
2821	13:56: 2	25.2420	1469.13	103.07	0.00
2825	13:59:53	25.3060	1469.17	103.06	0.00
2829	14: 3:47	25.3710	1469.12	103.07	0.00
2833	14: 7:33	25.4340	1469.13	103.08	0.00
2837	14:11:24	25.4980	1469.13	103.09	0.00
2841	14:15:14	25.5620	1469.11	103.10	0.00
2845	14:19: 5	25.6260	1469.15	103.11	0.00
2849	14:22:59	25.6910	1469.09	103.12	0.00
2853	14:26:45	25.7540	1469.13	103.13	0.00
2857	14:30:36	25.8180	1469.08	103.13	0.00
2861	14:34:26	25.8820	1469.09	103.12	0.00
2865	14:38:17	25.9460	1469.09	103.12	0.00
2869	14:42:11	26.0110	1469.07	103.13	0.00
2873	14:45:57	26.0740	1469.11	103.14	0.00
2877	14:49:48	26.1380	1469.05	103.15	0.00
2881	14:53:38	26.2020	1469.07	103.14	0.00
2885	14:57:29	26.2660	1469.06	103.17	0.00
2889	15: 1:23	26.3310	1469.04	103.17	0.00
2893	15: 5: 9	26.3940	1469.08	103.17	0.00
2897	15: 9: 0	26.4580	1469.02	103.17	0.00

#	TIME	(HRS)	(PSIA)	(Deg. F)	(PSIG)
2909	15:20:35	26.6510	1469.02	103.19	0.00
2913	15:24:21	26.7140	1469.05	103.19	0.00
2917	15:28:12	26.7780	1468.99	103.19	0.00
2921	15:32: 2	26.8420	1469.02	103.21	0.00
2925	15:35:53	26.9060	1469.00	103.21	0.00
2929	15:39:47	26.9710	1468.98	103.22	0.00
2933	15:43:33	27.0340	1469.03	103.21	0.00
2937	15:47:24	27.0980	1468.97	103.23	0.00
2941	15:51:14	27.1620	1468.98	103.24	0.00
2945	15:55: 5	27.2260	1468.99	103.25	0.00
2949	15:58:59	27.2910	1468.96	103.25	0.00
2953	16: 2:45	27.3540	1469.00	103.25	0.00
2957	16: 6:36	27.4180	1468.94	103.26	0.00
2961	16:10:26	27.4820	1468.95	103.25	0.00
2965	16:14:17	27.5460	1468.98	103.25	0.00
2969	16:18:11	27.6110	1468.93	103.26	0.00
2973	16:21:57	27.6740	1468.95	103.27	0.00
2977	16:25:48	27.7380	1468.94	103.28	0.00
2979	16:29:45	27.8040	1468.91	103.29	0.00
2983	16:33:36	27.8680	1468.95	103.29	0.00
2987	16:37:26	27.9320	1468.91	103.30	0.00
2991	16:41:17	27.9960	1468.91	103.30	0.00
2995	16:45: 7	28.0600	1468.94	103.30	0.00
2999	16:48:57	28.1240	1468.89	103.31	0.00
3003	16:52:48	28.1880	1468.91	103.32	0.00
3007	16:56:38	28.2520	1468.90	103.32	0.00
3011	17: 0:29	28.3160	1468.87	103.32	0.00
3015	17: 4:19	28.3800	1468.90	103.32	0.00
3019	17: 8: 9	28.4440	1468.86	103.34	0.00
3023	17:12: 0	28.5080	1468.87	103.34	0.00
3027	17:15:50	28.5720	1468.90	103.34	0.00
3031	17:19:41	28.6360	1468.84	103.35	0.00
3035	17:23:31	28.7000	1468.87	103.36	0.00
3039	17:27:21	28.7640	1468.85	103.36	0.00
3043	17:31:12	28.8280	1468.83	103.36	0.00
3047	17:35: 2	28.8920	1468.88	103.38	0.00
3051	17:38:53	28.9560	1468.81	103.36	0.00
3055	17:42:43	29.0200	1468.83	103.37	0.00
3059	17:46:33	29.0840	1468.84	103.38	0.00
3063	17:50:24	29.1480	1468.80	103.37	0.00
3067	17:54:14	29.2120	1468.83	103.38	0.00
3071	17:58: 5	29.2760	1468.80	103.40	0.00
3075	18: 1:55	29.3400	1468.80	103.40	0.00
3079	18: 5:45	29.4040	1468.83	103.40	0.00
3083	18: 9:36	29.4680	1468.78	103.40	0.00
3087	18:13:26	29.5320	1468.80	103.41	0.00
3091	18:17:17	29.5960	1468.78	103.41	0.00
3095	18:21: 7	29.6600	1468.77	103.42	0.00
3099	18:25: 7	29.7240	1468.77	103.42	0.00

#	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
3107	18:32:38	29.8520	1468.77	103.43	0.00
3111	18:36:29	29.9160	1468.77	103.44	0.00
3115	18:40:19	29.9800	1468.74	103.44	0.00
3119	18:44:09	30.0440	1468.77	103.45	0.00
3123	18:48:00	30.1080	1468.73	103.44	0.00
3127	18:51:50	30.1720	1468.73	103.45	0.00
3131	18:55:41	30.2360	1468.76	103.45	0.00
3135	18:59:31	30.3000	1468.72	103.47	0.00
3139	19:03:21	30.3640	1468.75	103.47	0.00
3143	19:07:12	30.4280	1468.71	103.47	0.00
3147	19:11:02	30.4920	1468.71	103.47	0.00
3151	19:14:53	30.5560	1468.74	103.47	0.00
3155	19:18:43	30.6200	1468.69	103.48	0.00
3159	19:22:33	30.6840	1468.71	103.49	0.00
3163	19:26:24	30.7480	1468.69	103.49	0.00
3167	19:30:14	30.8120	1468.69	103.50	0.00
3171	19:34:05	30.8760	1468.72	103.50	0.00
3175	19:37:55	30.9400	1468.67	103.50	0.00
3179	19:41:45	31.0040	1468.69	103.50	0.00
3183	19:45:36	31.0680	1468.68	103.51	0.00
3187	19:49:26	31.1320	1468.66	103.51	0.00
3191	19:53:17	31.1960	1468.70	103.53	0.00
3195	19:57:07	31.2600	1468.64	103.53	0.00
3199	20:00:57	31.3240	1468.66	103.54	0.00
3203	20:04:48	31.3880	1468.67	103.55	0.00
3207	20:08:38	31.4520	1468.63	103.55	0.00
3211	20:12:29	31.5160	1468.67	103.54	0.00
3215	20:16:19	31.5800	1468.62	103.54	0.00
3219	20:20:09	31.6440	1468.63	103.55	0.00
3223	20:23:59	31.7080	1468.65	103.55	0.00
3227	20:27:50	31.7720	1468.61	103.56	0.00
3231	20:31:41	31.8360	1468.64	103.56	0.00
3235	20:35:31	31.9000	1468.60	103.56	0.00
3239	20:39:21	31.9640	1468.61	103.57	0.00
3243	20:43:12	32.0280	1468.63	103.57	0.00
3247	20:47:02	32.0920	1468.58	103.58	0.00
3251	20:50:53	32.1560	1468.62	103.59	0.00
3255	20:54:43	32.2200	1468.58	103.59	0.00
3259	20:58:33	32.2840	1468.58	103.60	0.00
3263	21:02:24	32.3480	1468.61	103.60	0.00
3267	21:06:14	32.4120	1468.56	103.60	0.00
3271	21:10:05	32.4760	1468.59	103.60	0.00
3275	21:13:55	32.5400	1468.56	103.60	0.00
3279	21:17:45	32.6040	1468.56	103.61	0.00
3283	21:21:36	32.6680	1468.59	103.63	0.00
3287	21:25:26	32.7320	1468.54	103.63	0.00
3291	21:29:17	32.7960	1468.57	103.63	0.00
3295	21:33:07	32.8600	1468.54	103.64	0.00

#	TIME	(HRS)	(PSIA)	(Deg. F)	(PSIG)
3307	21:44:38	33.0520	1468.51	103.64	0.00
3311	21:48:29	33.1160	1468.54	103.64	0.00
3315	21:52:19	33.1800	1468.52	103.65	0.00
3319	21:56:09	33.2440	1468.51	103.66	0.00
3323	22:00:00	33.3080	1468.55	103.66	0.00
3327	22:03:50	33.3720	1468.49	103.67	67.80
3331	22:07:41	33.4360	1468.52	103.67	0.00
3335	22:11:31	33.5000	1468.50	103.68	0.00
3339	22:15:21	33.5640	1468.48	103.67	0.00
3343	22:19:12	33.6280	1468.52	103.68	0.00
3347	22:23:02	33.6920	1468.47	103.67	0.00
3351	22:26:53	33.7560	1468.49	103.68	0.00
3355	22:30:43	33.8200	1468.48	103.69	0.00
3359	22:34:33	33.8840	1468.46	103.69	0.00
3363	22:38:24	33.9480	1468.51	103.70	0.00
3367	22:42:14	34.0120	1468.45	103.71	0.00
3371	22:46:05	34.0760	1468.46	103.71	0.00
3375	22:49:55	34.1400	1468.47	103.71	0.00
3379	22:53:45	34.2040	1468.44	103.72	0.00
3383	22:57:36	34.2680	1468.48	103.72	0.00
3387	23:01:26	34.3320	1468.43	103.73	0.00
3391	23:05:17	34.3960	1468.44	103.74	0.00
3395	23:09:07	34.4600	1468.46	103.74	0.00
3399	23:12:57	34.5240	1468.42	103.74	0.00
3403	23:16:48	34.5880	1468.45	103.73	0.00
3407	23:20:38	34.6520	1468.41	103.74	0.00
3411	23:24:29	34.7160	1468.42	103.75	0.00
3415	23:28:19	34.7800	1468.44	103.75	0.00
3419	23:32:09	34.8440	1468.39	103.75	0.00
3423	23:35:59	34.9080	1468.42	103.76	0.00
3427	23:39:50	34.9720	1468.39	103.76	0.00
3431	23:43:41	35.0360	1468.38	103.76	0.00
3435	23:47:31	35.1000	1468.42	103.76	0.00
3439	23:51:21	35.1640	1468.37	103.76	0.00
3443	23:55:12	35.2280	1468.39	103.77	0.00
3447	23:59:02	35.2920	1468.37	103.77	0.00
[Thursday: Oct. 26, 1995]					
3451	0:02:53	35.3560	1468.36	103.78	0.00
3455	0:06:43	35.4200	1468.40	103.78	0.00
3459	0:10:33	35.4840	1468.35	103.79	0.00
3463	0:14:24	35.5480	1468.37	103.79	0.00
3467	0:18:14	35.6120	1468.35	103.79	0.00
3471	0:22:05	35.6760	1468.34	103.80	0.00
3475	0:25:55	35.7400	1468.38	103.80	0.00
3479	0:29:45	35.8040	1468.32	103.80	0.00
3483	0:33:36	35.8680	1468.35	103.80	0.00
3487	0:37:26	35.9320	1468.33	103.81	0.00
3491	0:41:17	35.9960	1468.32	103.82	0.00

	TIME	(HRS)	(PSIA)	(Deg.F)	(PSIG)
3503	0:52:48	36.1880	1468.32	103.83	0.00
3507	0:56:38	36.2520	1468.31	103.83	0.00
3511	1: 0:29	36.3160	1468.30	103.84	0.00
3515	1: 4:19	36.3800	1468.33	103.84	0.00
3519	1: 8: 9	36.4440	1468.28	103.85	0.00
3523	1:12: 0	36.5080	1468.30	103.84	0.00
3527	1:15:50	36.5720	1468.29	103.85	0.00
3531	1:19:41	36.6360	1468.28	103.85	0.00
3535	1:23:31	36.7000	1468.31	103.86	0.00
3539	1:27:21	36.7640	1468.26	103.86	0.00
3543	1:31:12	36.8280	1468.28	103.87	0.00
3547	1:35: 6	36.8930	1468.26	103.87	0.00
3551	1:38:53	36.9560	1468.26	103.88	0.00
3555	1:42:43	37.0200	1468.30	103.88	0.00
3559	1:46:33	37.0840	1468.24	103.88	0.00
3563	1:50:24	37.1480	1468.27	103.87	0.00
3567	1:54:18	37.2130	1468.25	103.88	0.00
3571	1:58: 5	37.2760	1468.24	103.89	0.00
3575	2: 1:55	37.3400	1468.28	103.89	0.00
3579	2: 5:45	37.4040	1468.22	103.90	0.00
3583	2: 9:36	37.4680	1468.24	103.90	0.00
3587	2:13:30	37.5330	1468.23	103.90	0.00
3591	2:17:17	37.5960	1468.22	103.92	0.00
3595	2:21: 7	37.6600	1468.25	103.91	0.00
3599	2:24:57	37.7240	1468.20	103.92	0.00
3603	2:28:48	37.7880	1468.22	103.92	0.00
3607	2:32:42	37.8530	1468.20	103.91	0.00
3611	2:36:29	37.9160	1468.19	103.92	0.00
3615	2:40:19	37.9800	1468.23	103.92	0.00
3619	2:44: 9	38.0440	1468.18	103.92	0.00
3623	2:48: 0	38.1080	1468.20	103.94	0.00
3631	2:51:54	38.1730	1468.19	103.94	0.00
3635	2:55:41	38.2360	1468.18	103.95	0.00
3639	2:59:31	38.3000	1468.22	103.94	0.00
3643	3: 3:21	38.3640	1468.16	103.94	0.00
3647	3: 7:12	38.4280	1468.18	103.96	0.00
3650	3:11: 6	38.4930	1468.17	103.95	0.00
3651	3:13:55	38.5400	1468.20	103.96	0.00
3652	3:15:50	38.5560	1468.16	103.96	0.00
3653	3:16:48	38.5720	1468.17	103.96	0.00
3654	3:17:45	38.5880	1468.17	103.96	0.00
3655	3:18:43	38.6040	1468.15	103.96	0.00
3656	3:19:41	38.6200	1468.19	103.96	0.00
3657	3:20:38	38.6360	1468.15	103.96	0.00
3658	3:21:36	38.6520	1468.16	103.96	0.00
3659	3:22:33	38.6680	1468.17	103.96	0.00
3660	3:23:31	38.6840	1468.14	103.96	0.00
3661	3:24:29	38.7000	1468.19	103.96	0.00

To: H. R. Horton
Dept/Location: Maintenance Engr/BCP
From: P. L. Richard
Dept/Location: Site Services Tech/BCP

Subject: Analyses of #3 Well Feed Samples for Mechanical Integrity Testing

cc: R. S. O'Neal
P. H. Richardson
R. E. Van Wie --> L. P. Molina
W. E. Dentler
G. J. McCarthy
B. G. Campbell
D. R. Howard
Wes Smith - ECO Solutions, Inc.

Samples of the #3 Well Feed were collected by the Site Services Operators every 8 hours. These samples were submitted to the laboratory for analysis of specific gravity and viscosity at 120°F as requested. The results are tabulated below.

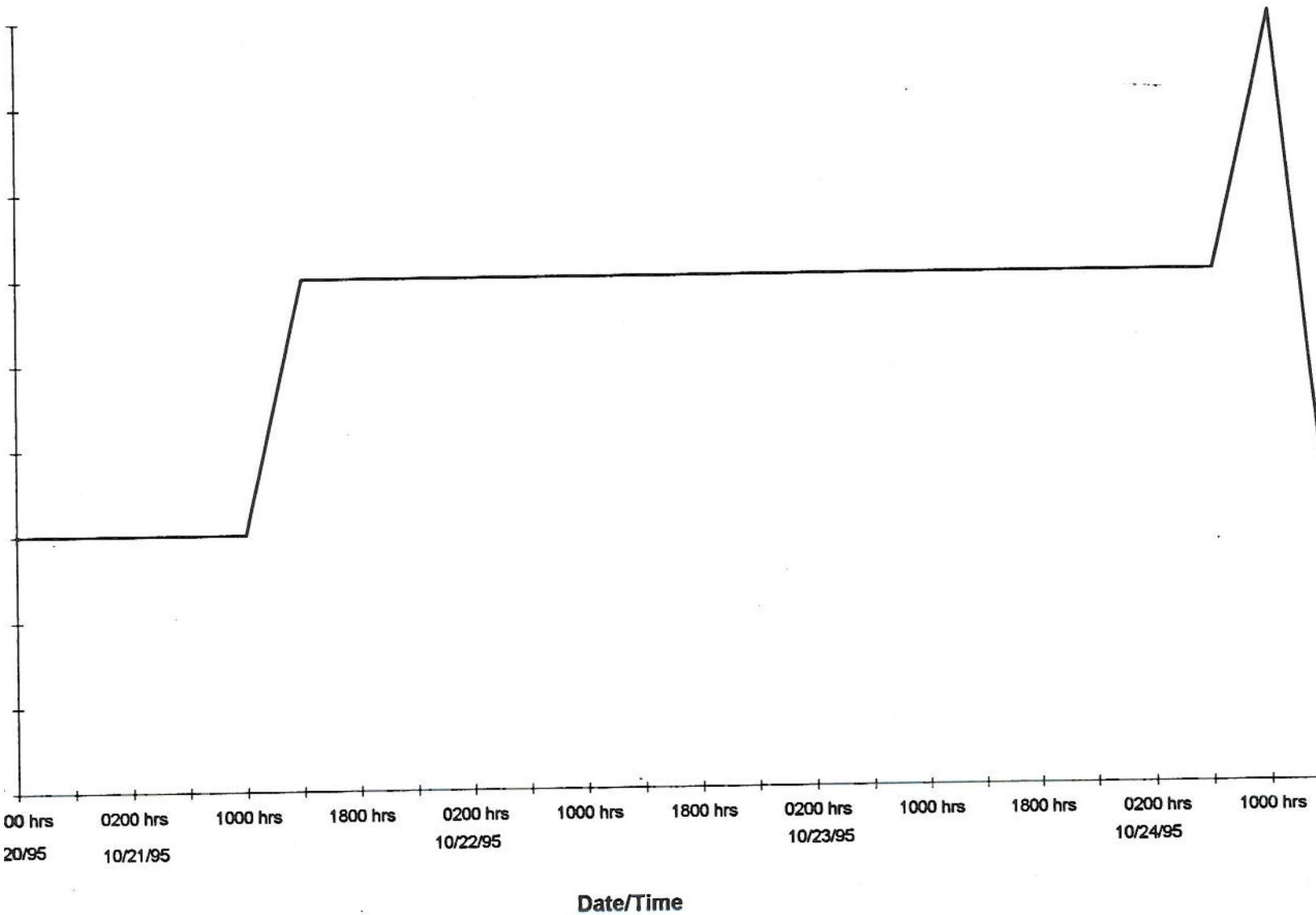
Sample Date	Sample Time	Specific Gravity	Viscosity (cps)
10/20/95	10 AM	1.0011	0.540
10/20/95	6 PM	1.0010	0.534
10/21/95	2 AM	No sample received	
10/21/95	10 AM	1.0012	0.555
10/21/95	6 PM	1.0012	0.542
10/22/95	2 AM	1.0013	0.550
10/22/95	10 AM	1.0013	0.541
10/22/95	6 PM	1.0013	0.530
10/23/95	2 AM	1.0014	0.556
10/23/95	10 AM	1.0014	0.557
10/23/95	6 PM	No sample received	
10/24/95	2 AM	1.0015	0.545
10/24/95	10 AM	1.0015	0.548
10/24/95	6 PM	1.0015	0.544

I would like to acknowledge Luis Molina for his timely analysis of these samples.

P. L. Richard
P. L. Richard

DATE	TIME	FLOW (GPM)
10/20/95	1800 hrs	150
	2200 hrs	150
10/21/95	0200 hrs	150
	0600 hrs	150
	1000 hrs	150
	1400 hrs	153
	1800 hrs	153
	2200 hrs	153
10/22/95	0200 hrs	153
	0400 hrs	153
	1000 hrs	153
	1400 hrs	153
	1800 hrs	153
	2200 hrs	153
10/23/95	0200 hrs	153
	0600 hrs	153
	1000 hrs	153
	1400 hrs	153
	1800 hrs	153
	2200 hrs	153
	0200 hrs	153
	0600 hrs	153
10/24/95	0200 hrs	153
	0600 hrs	153
	1000 hrs	156
	1400 hrs	150
	2200 hrs	0

HOECHST CELANESE CHEMICAL GROUP, INC.
Flow Rate - WDW-32 (Well No. 3)



ECO Solutions

#3 WELL MIT

DATE/TIME	VISCOSITY	SPEC. GRAVITY
10/20 10 AM	.540 CPS	1.0011
10/20 6 PM	.534 CPS	1.0010
10/21 10 AM	.555 CPS	1.0012
10/21 6 PM	.542 CPS	1.0012
10/22 2 AM	.550 CPS	1.0013
10/22 10 AM	.541 CPS	1.0013
10/22 6 PM	.530 CPS	1.0013
10/23 2 AM	.556 CPS	1.0014
10/23 10 AM	.557 CPS	1.0014
10/24 2 AM	.545 CPS	1.0015
10/24 10 AM	.548 CPS	1.0015
10/24 6 PM	.544 CPS	1.0015

10/26/95 LPM

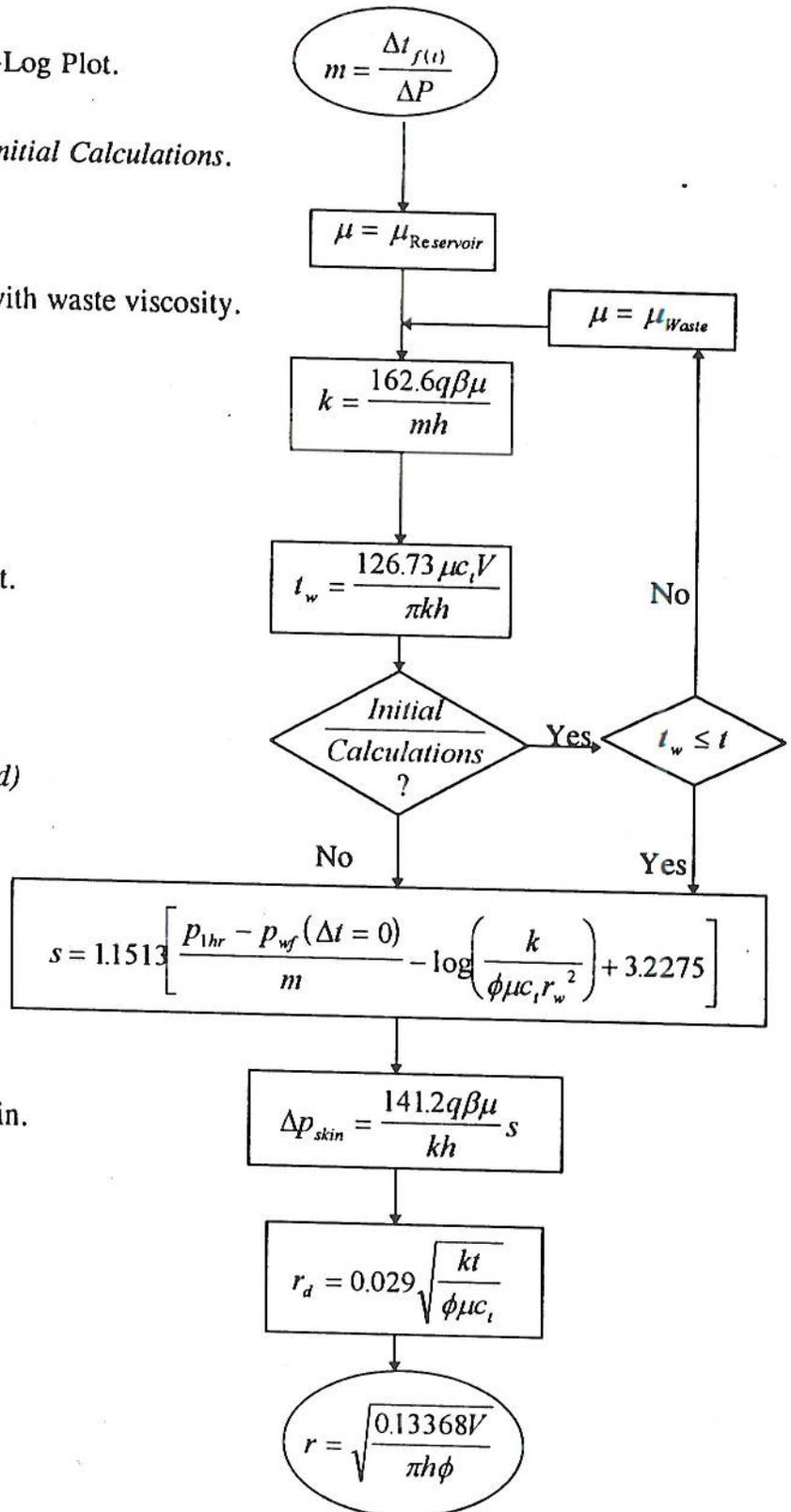
ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

APPENDIX G

**CALCULATION FLOW CHART
AND
CALCULATION OF PARAMETERS**

CALCULATION FLOW CHART

1. Calculate slope value from Semi-Log Plot.
- 2 a. Utilize reservoir viscosity for *Initial Calculations*.
- b. If required, redo calculations with waste viscosity.
3. Calculate Permeability.
4. Calculate Time to exit waste front.
5. Conditional statements.
(*t*, beginning of radial flow period)
6. Calculate skin factor.
7. Calculate Pressure drop due to skin.
8. Calculate radius of investigation.
9. Calculate distance to waste front.



CALCULATIONS

Data was obtained during the injectivity/falloff survey on October 24 through 26, 1995.

1. Calculate Permeability

$$k = \frac{162.6 q \beta \mu}{mh} \quad \text{where}$$

- k = permeability, millidarcies
- q = water flow rate, barrels per day
- β = formation volume factor, RB/STB
- μ = Fluid viscosity, centipoise
- m = Semi-Log slope, psi per cycle
- h = Net sand thickness, feet

$$\begin{aligned} k &= \frac{(162.2)(5143)(1.0)(0.71)}{(4.876)(165)} \\ &= \frac{593722}{804.5} \\ &= 738 \text{ md} \end{aligned}$$

2. Time to exit waste front.

$$T_w = \frac{126.73 \mu C_t V}{\pi K h} \quad \text{where,}$$

- t_w = Time to exit waste front, hours
- μ = Fluid viscosity, centipoise
- C_t = Total compressibility, 1/psi
- N = Total injection fluid volume, cubic feet
- π = pi, 3.1416
- k = permeability, millidarcies
- h = Net sand thickness, feet

$$\begin{aligned} t_w &= \frac{(126.73)(0.71)(6.0108 \times 10^{-6})(1.849 \times 10^9)}{(3.1416)(738)(165)} \\ t_w &= \frac{(962,073)}{(382,358)} \\ &= 2.51 \text{ hours} \end{aligned} \quad \text{Horner time} = 39.4 \text{ hours}$$

3. Calculate pressure drop due to skin.

$$\Delta P_{\text{skin}} = \frac{141.2 q \beta \mu \times s}{kh} \quad \text{where}$$

- ΔP_{skin} = pressure drop due to skin, psi
- q = water flow rate, barrels per day
- β = Formation volume factor, RB/STB
- μ = Fluid viscosity, centipoise
- k = Permeability, millidarcies
- h = Net sand thickness, feet
- s = Skin factor, total

$$\Delta P_{\text{skin}} = \frac{(141.2)(5143)(1.0)(0.71)(80)}{(738)(165)}$$

$$\Delta P_{\text{skin}} = \frac{41,247,683}{121,770}$$

$$= 338 \text{ psi}$$

4. Calculate radius of investigation (drainage radius).

$$r_d = 0.029 \sqrt{\frac{kt}{\phi \mu C_t}} \quad \text{where}$$

- R_d = drainage radius, feet
- k = permeability, millidarcies
- t = time to radial flow period, hours
- ϕ = Formation porosity, percent (%)
- μ = Fluid viscosity, centipoise
- C_t = Total compressibility, 1/psi
- s = Skin factor, total

$$r_d = 0.029 \sqrt{\frac{(738)(6.8)}{(0.33)(0.71)(6.0108810^{-6})}}$$

$$r_d = 0.029 \sqrt{\frac{5018}{0.000001408}}$$

$$= (0.029)(59,699)$$

$$= 1731 \text{ feet}$$

5. Calculate distance to waste front.

$$r = \sqrt{\frac{0.13368 V}{\pi h \phi}} \quad \text{where}$$

- r = Distance to waste front, feet
 V = Total injection fluid volume, cubic feet
 π = pi, 3.1416
 h = Net sand thickness, feet
 ϕ = Formation porosity, percent (%)

$$r = \sqrt{\frac{(0.13368)(1.773 \times 10^8)}{(3.1416)(165)(0.33)}}$$

$$r = \sqrt{\frac{23,696,705}{171}}$$

$$r = 372 \text{ feet}$$

6. Calculate skin factor.

$$s = 1.1513 \left[\frac{P_{1hr} - P_{wf}(\Delta t = 0)}{m} - \log \left[\frac{k}{\phi \mu C_t r_w^2} \right] + \right] \quad \text{where,}$$

- s = Skin factor, total
 P_{1hr} = Extrapolated pressure @ 1 hour, psia
 P_{wf} = Extrapolated pressure
 k = permeability, millidarcies
 ϕ = Formation porosity, percent
 μ = Fluid viscosity, centipoise
 C_t = Total compressibility, 1/psi
 r_w = Wellbore radius, feet
 m = Semi-Log slope, psi/cycle

$$s = 1.1513 \left[\frac{(1475.9 - 1843.2)}{4.876} - \log \left[\frac{(738)}{(0.33)(0.71)(6.0 \times 10^{-7})(0.583^2)} \right] + 3.2275 \right]$$

$$s = 1.1517 \left[75.3 - \log \left[\frac{738}{4.77 \times 10^{-7}} \right] + 3.2275 \right]$$

$$s = 1.1517 [75.3 - \log 1.547 \times 10^9 + 3.2275]$$

$$s = 1.1517 [75.3 - 9.19 + 3.2275]$$

$$s = 79.8$$

ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

APPENDIX H

STATIC GRADIENT SURVEY

Company: HOECHST CELANESE CHEMICAL CO.

Well: WDW-32, WELL #3

Field: BAY CITY PLANT

County: MATAGORDA

State: TEXAS

Engineer: DOUG BEALL

Date: 10/26/1995

Gauge Type: GRC EPG-520

Serial No.: 85954

Gauge Range: 0 - 2500 PSI

Gauge Depth: 3192 ft

Well Type: INJECTION

Test Type: GRADIENT SURVEY

Well Status: SHUT-IN

Tubing: 5-1/2" TO 3,316'

Tubing: TO

Casing: 9-5/8" TO 3,245'

Perfs.: 3,202' - 3,553' (SCREEN)

Elevation: 11'

Packer Depth 3192 ft

PBTD 3553 ft

Oil Level

H2O Level 0 ft

Zero: THF

Shut-in BHP 1468 @ 3192 ft

Flowing BHP 1842 @ 3192 ft

Shut-in WHP 78

Flowing WHP 600

Shut-in BHT 104 F @ 3192 ft

Flowing BHT 99 F @ 3192 ft

Shut-in WHT 72 F

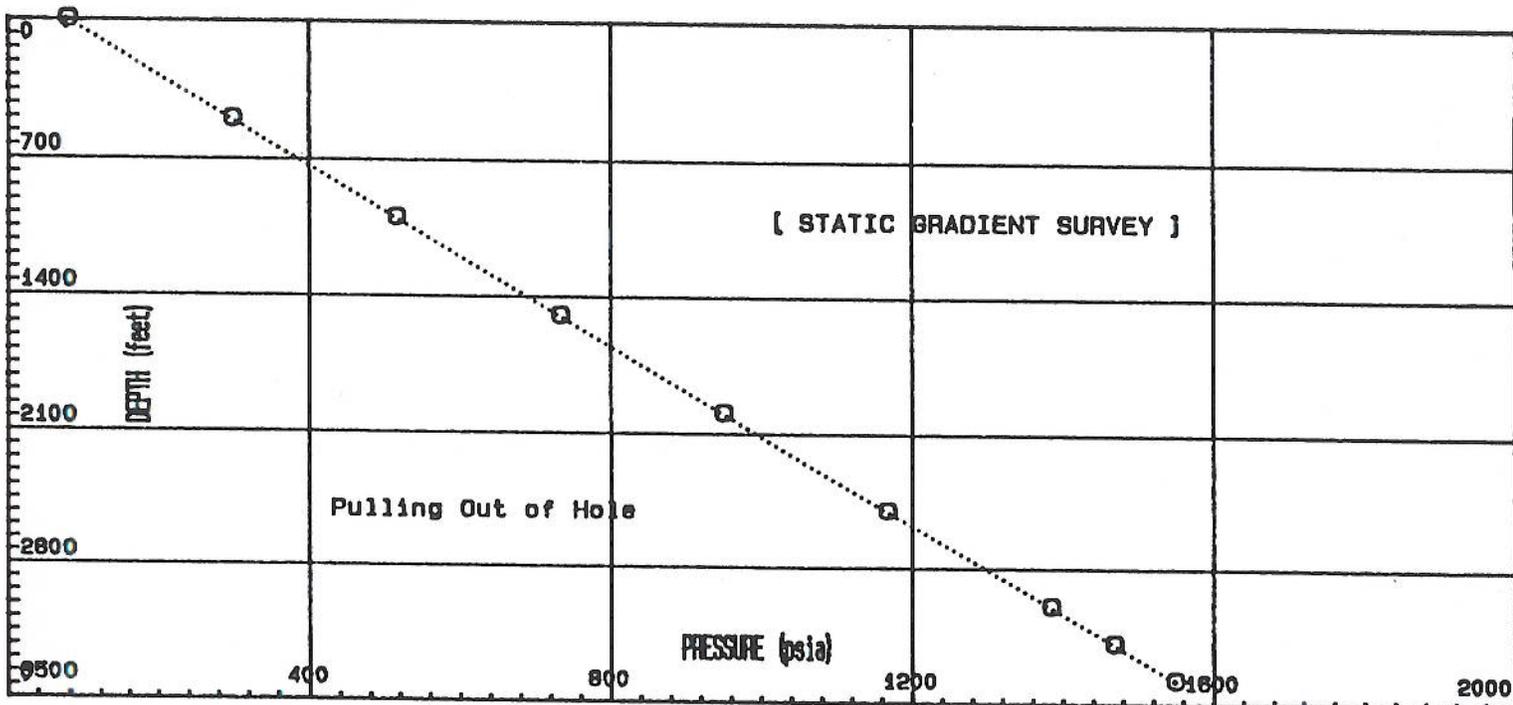
Flowing WHT 0 F

[GRADIENT DATA]

#	MD	TVD	PRESSURE	PSI/ft
1	0	0	78.16	
2	500	500	299.23	0.442
3	1000	1000	515.91	0.433
4	1500	1500	732.94	0.434
5	2000	2000	950.13	0.434
6	2500	2500	1167.31	0.434
7	3000	3000	1384.43	0.434
8	3192	3192	1468.15	0.436
9	3378	3378	1549.25	0.436

MILTON M. COOKE CO.
2310 McAllister St.
Houston, Tx. 77092
Ph. 713-683-0333

Pressure extrapolated to mid-point perforations.



Company: HOECHST CELANESE CHEMICAL CO.

Well: WDW-32 WELL #3

Field: BAY CITY PLANT

[Thursday: Oct. 26, 1995]

Page 29

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
3663	2	3:26:24	38.7480	1468.16	103.96	0.00
3664	2	3:27:21	38.7640	1468.14	103.97	0.00
3665	2	3:28:19	38.7800	1468.19	103.97	0.00
3666	2	3:29:17	38.7960	1468.14	103.97	0.00
3667	2	3:30:18	38.8130	1468.15	103.97	0.00
3668	2	3:31:12	38.8280	1468.16	103.97	0.00
3669	2	3:32: 9	38.8440	1468.14	103.97	0.00
3670	2	3:33: 7	38.8600	1468.19	103.97	0.00
3671	2	3:34: 5	38.8760	1468.14	103.97	0.00
3672	2	3:35: 2	38.8920	1468.15	103.97	0.00
3673	2	3:36: 0	38.9080	1468.15	103.97	0.00
3674	2	3:36:57	38.9240	1468.13	103.97	0.00
3675	2	3:37:55	38.9400	1468.18	103.97	0.00
3676	2	3:38:53	38.9560	1468.13	103.97	0.00
3677	2	3:39:50	38.9720	1468.14	103.97	0.00
3678	2	3:40:48	38.9880	1468.15	103.97	0.00
3679	2	3:41:45	39.0040	1468.13	103.98	0.00
3680	2	3:42:43	39.0200	1468.18	103.98	0.00
3681	2	3:43:41	39.0360	1468.13	103.99	0.00
3682	2	3:44:38	39.0520	1468.14	103.98	0.00
3683	2	3:45:36	39.0680	1468.14	103.98	0.00
3684	2	3:46:33	39.0840	1468.12	103.98	0.00
3685	2	3:47:31	39.1000	1468.17	103.98	0.00
3686	2	3:48:29	39.1160	1468.12	103.97	0.00
3687	2	3:49:26	39.1320	1468.14	103.98	0.00
3688	2	3:50:24	39.1480	1468.15	103.98	0.00
3689	2	3:51:21	39.1640	1468.13	103.98	0.00
3690	2	3:52:19	39.1800	1468.14	103.99	0.00
3691	2	3:53:17	39.1960	1468.12	103.98	0.00
3692	2	3:54:14	39.2120	1468.13	103.99	0.00
3693	2	3:55:12	39.2280	1468.13	103.99	0.00
3694	2	3:56: 9	39.2440	1468.10	103.99	0.00
3695	2	3:57: 7	39.2600	1468.15	103.99	0.00
3696	2	3:58: 5	39.2760	1468.10	103.99	0.00
3697	2	3:59: 2	39.2920	1468.11	103.99	0.00
3698	2	4: 0: 0	39.3080	1468.12	103.99	0.00
3699	2	4: 0:57	39.3240	1468.10	104.00	67.40
		End of Fall-Off Test.				0.00
		Start out of hole making gradient stops.				
3700	2	4: 1:55	39.3400	1468.15	104.00	0.00
3701	2	4: 2:53	39.3560	1467.59	104.00	0.00
3702	2	4: 3:50	39.3720	1461.66	104.00	0.00
3703	2	4: 4:48	39.3880	1452.03	103.93	0.00
3704	2	4: 5:45	39.4040	1441.92	103.93	0.00
3705	2	4: 6:43	39.4200	1430.73	104.00	0.00
3706	2	4: 7:41	39.4360	1414.11	103.89	0.00
3707	2	4: 8:38	39.4520	1396.26	103.67	0.00
3708	2	4: 9:36	39.4680	1386.71	103.52	0.00
3709	2	4:10:33	39.4840	1384.36	103.59	0.00
3710	2	4:11:31	39.5000	1384.43	103.59	0.00

Company: HOECHST CELANESE CHEMICAL CO.
 Well: WDW-32 WELL #3
 Field: BAY CITY PLANT

[Thursday: Oct. 26, 1995]
 Page 30

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
3711	2	4:12:29	39.5160	1384.40	103.59	0.00
3712	2	4:13:26	39.5320	1384.43	103.60	0.00
3713	2	4:14:24	39.5480	1384.44	103.60	0.00
3714	2	4:15:21	39.5640	1384.42	103.61	0.00
3715	2	4:16:19	39.5800	1384.47	103.61	0.00
3716	2	4:17:17	39.5960	1384.43	103.61	0.00
3717	2	4:18:14	39.6120	1384.45	103.62	0.00
3718	2	4:19:12	39.6280	1384.45	103.62	0.00
3719	2	4:20: 9	39.6440	1384.43	103.62	0.00
3720	2	4:21: 7	39.6600	1384.47	103.62	0.00
Depart 3,000 ft.						
3721	2	4:22: 5	39.6760	1384.43	103.62	0.00
3722	2	4:23: 2	39.6920	1380.64	103.62	0.00
3723	2	4:24: 0	39.7080	1357.16	103.47	0.00
3724	2	4:24:57	39.7240	1332.10	103.07	0.00
3725	2	4:25:55	39.7400	1306.92	102.82	0.00
3726	2	4:26:53	39.7560	1281.22	102.52	0.00
3727	2	4:27:50	39.7720	1255.06	102.05	0.00
3728	2	4:28:48	39.7880	1229.19	101.53	0.00
3729	2	4:29:45	39.8040	1202.64	101.26	0.00
3730	2	4:30:43	39.8200	1176.17	100.80	0.00
3731	2	4:31:41	39.8360	1166.96	100.44	0.00
3732	2	4:32:38	39.8520	1167.14	100.29	0.00
3733	2	4:33:36	39.8680	1167.21	100.24	0.00
3734	2	4:34:33	39.8840	1167.23	100.23	0.00
3735	2	4:35:31	39.9000	1167.30	100.21	0.00
3736	2	4:36:29	39.9160	1167.27	100.21	0.00
3737	2	4:37:26	39.9320	1167.30	100.20	0.00
3738	2	4:38:24	39.9480	1167.30	100.20	0.00
3739	2	4:39:21	39.9640	1167.29	100.19	0.00
3740	2	4:40:19	39.9800	1167.34	100.19	0.00
3741	2	4:41:17	39.9960	1167.30	100.19	0.00
3742	2	4:42:14	40.0120	1167.33	100.19	0.00
3743	2	4:43:12	40.0280	1167.33	100.19	0.00
Depart 2,500 ft.						
3744	2	4:44: 9	40.0440	1167.31	100.19	0.00
3745	2	4:45: 7	40.0600	1157.47	100.19	0.00
3746	2	4:46: 5	40.0760	1128.46	99.99	0.00
3747	2	4:47: 2	40.0920	1098.89	99.55	0.00
3748	2	4:48: 0	40.1080	1069.46	99.14	0.00
3749	2	4:48:57	40.1240	1038.94	98.71	0.00
3750	2	4:49:55	40.1400	1008.69	98.23	0.00
3751	2	4:50:53	40.1560	978.23	97.77	0.00
3752	2	4:51:50	40.1720	954.05	97.29	0.00
3753	2	4:52:48	40.1880	949.80	96.93	0.00
3754	2	4:53:45	40.2040	949.93	96.84	0.00
3755	2	4:54:43	40.2200	950.03	96.81	0.00
3756	2	4:55:41	40.2360	950.03	96.80	0.00
3757	2	4:56:38	40.2520	950.07	96.79	0.00
3758	2	4:57:36	40.2680	950.08	96.79	0.00

Company: HOECHST CELANESE CHEMICAL CO.
 Well: WDW-32 WELL #3
 Field: BAY CITY PLANT

[Thursday: Oct. 26, 1995]
 Page 31

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
3759	2	4:58:33	40.2840	950.07	96.79	0.00
3760	2	4:59:31	40.3000	950.12	96.78	0.00
3761	2	5: 0:29	40.3160	950.08	96.78	0.00
3762	2	5: 1:26	40.3320	950.11	96.77	0.00
3763	2	5: 2:24	40.3480	950.11	96.77	0.00
3764	2	5: 3:21	40.3640	950.09	96.76	0.00
3765	2	5: 4:19	40.3800	950.14	96.76	0.00
3766	2	5: 5:17	40.3960	950.10	96.76	0.00
3767	2	5: 6:14	40.4120	950.13	96.75	0.00
3768	2	5: 7:12	40.4280	950.12	96.75	0.00
3769	2	5: 8: 9	40.4440	950.10	96.75	0.00
3770	2	5: 9: 7	40.4600	950.15	96.75	0.00
3771	2	5:10: 5	40.4760	950.10	96.75	0.00
3772	2	5:11: 2	40.4920	950.13	96.75	0.00
		Depart 2,000 ft.				
3773	2	5:12: 0	40.5080	950.13	96.75	0.00
3774	2	5:12:57	40.5240	950.00	96.75	0.00
3775	2	5:13:55	40.5400	925.67	96.72	0.00
3776	2	5:14:53	40.5560	893.89	96.29	0.00
3777	2	5:15:50	40.5720	861.60	95.85	0.00
3778	2	5:16:48	40.5880	829.60	95.38	0.00
3779	2	5:17:45	40.6040	796.81	95.08	0.00
3780	2	5:18:43	40.6200	763.98	94.70	0.00
3781	2	5:19:41	40.6360	734.14	94.15	0.00
3782	2	5:20:38	40.6520	732.74	93.76	0.00
3783	2	5:21:36	40.6680	732.82	93.72	0.00
3784	2	5:22:33	40.6840	732.84	93.70	0.00
3785	2	5:23:31	40.7000	732.90	93.70	0.00
3786	2	5:24:29	40.7160	732.88	93.70	0.00
3787	2	5:25:26	40.7320	732.91	93.70	0.00
3788	2	5:26:24	40.7480	732.91	93.70	0.00
3789	2	5:27:21	40.7640	732.91	93.70	0.00
3790	2	5:28:19	40.7800	732.95	93.69	0.00
3791	2	5:29:17	40.7960	732.92	93.69	0.00
3792	2	5:30:14	40.8120	732.94	93.69	0.00
		Depart 1,500 ft.				
3793	2	5:31:12	40.8280	732.94	93.69	0.00
3794	2	5:32: 9	40.8440	730.99	93.69	0.00
3795	2	5:33: 7	40.8600	699.25	93.59	0.00
3796	2	5:34: 5	40.8760	665.24	93.14	0.00
3797	2	5:35: 2	40.8920	630.98	92.77	0.00
3798	2	5:36: 0	40.9080	597.26	92.32	0.00
3799	2	5:36:57	40.9240	563.02	91.86	0.00
3800	2	5:37:55	40.9400	528.89	91.58	0.00
3801	2	5:38:53	40.9560	515.62	91.00	0.00
3802	2	5:39:50	40.9720	515.76	90.84	0.00
3803	2	5:40:48	40.9880	515.79	90.80	0.00
3804	2	5:41:45	41.0040	515.81	90.79	0.00
3805	2	5:42:43	41.0200	515.88	90.78	0.00
3806	2	5:43:41	41.0360	515.85	90.76	0.00

Company: HOECHST CELANESE CHEMICAL CO.

Well: WDW-32 WELL #3

Field: BAY CITY PLANT

[Thursday: Oct. 26, 1995]

Page 32

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)
3807	2	5:44:38	41.0520	515.89	90.76	0.00
3808	2	5:45:36	41.0680	515.89	90.75	0.00
3809	2	5:46:33	41.0840	515.89	90.74	0.00
3810	2	5:47:31	41.1000	515.93	90.74	0.00
3811	2	5:48:29	41.1160	515.90	90.74	0.00
3812	2	5:49:26	41.1320	515.93	90.73	0.00
3813	2	5:50:24	41.1480	515.92	90.73	0.00
3814	2	5:51:21	41.1640	515.90	90.73	0.00
3815	2	5:52:19	41.1800	515.94	90.72	0.00
Depart 1,000 ft.						
3816	2	5:53:17	41.1960	515.91	90.72	0.00
3817	2	5:54:14	41.2120	504.72	90.72	0.00
3818	2	5:55:12	41.2280	471.99	90.58	0.00
3819	2	5:56: 9	41.2440	436.94	90.27	0.00
3820	2	5:57: 7	41.2600	402.25	89.75	0.00
3821	2	5:58: 5	41.2760	367.57	89.67	0.00
3822	2	5:59: 2	41.2920	332.45	88.93	0.00
3823	2	6: 0: 0	41.3080	300.83	88.98	0.00
3824	2	6: 0:57	41.3240	299.07	88.58	0.00
3825	2	6: 1:55	41.3400	299.13	88.46	0.00
3826	2	6: 2:53	41.3560	299.12	88.42	0.00
3827	2	6: 3:50	41.3720	299.17	88.40	0.00
3828	2	6: 4:48	41.3880	299.18	88.38	0.00
3829	2	6: 5:45	41.4040	299.18	88.37	0.00
3830	2	6: 6:43	41.4200	299.23	88.35	0.00
3831	2	6: 7:41	41.4360	299.20	88.33	0.00
Depart 500 ft.						
3832	2	6: 8:38	41.4520	299.23	88.33	0.00
3833	2	6: 9:36	41.4680	290.98	88.32	0.00
3834	2	6:10:33	41.4840	258.30	87.83	0.00
3835	2	6:11:31	41.5000	225.66	87.92	0.00
3836	2	6:12:29	41.5160	192.43	87.85	0.00
3837	2	6:13:26	41.5320	158.15	87.12	0.00
3838	2	6:14:24	41.5480	124.23	86.48	0.00
3839	2	6:15:21	41.5640	96.95	86.22	0.00
Arrived @ Surface.						
3840	2	6:16:19	41.5800	84.70	85.34	0.00
3841	2	6:17:17	41.5960	77.18	79.81	0.00
3842	2	6:18:14	41.6120	76.02	75.89	0.00
3843	2	6:19:12	41.6280	76.80	75.38	0.00
3844	2	6:20: 9	41.6440	77.28	75.00	0.00
3845	2	6:21: 7	41.6600	77.61	74.63	0.00
3846	2	6:22: 5	41.6760	77.75	74.31	0.00
3847	2	6:23: 2	41.6920	77.88	74.03	0.00
3848	2	6:24: 0	41.7080	77.95	73.78	0.00
3849	2	6:24:57	41.7240	78.00	73.57	0.00
3850	2	6:25:55	41.7400	78.08	73.39	0.00
3851	2	6:26:53	41.7560	78.07	73.22	0.00
3852	2	6:27:50	41.7720	78.11	73.06	0.00
3853	2	6:28:48	41.7880	78.12	72.92	0.00

Company: HOECHST CELANESE CHEMICAL CO.

Well: WDW-32 WELL #3

Field: BAY CITY PLANT

[Thursday: Oct. 26, 1995]

Page 33

REC #	DAY	REAL TIME	DT (HRS)	BHP (PSIA)	BHT (Deg. F)	WHP (PSIG)	
3854	2	6:29:45	41.8040	78.12	72.79	0.00	
3855	2	6:30:43	41.8200	78.18	72.67	0.00	
3856	2	6:31:41	41.8360	78.15	72.56	0.00	
3857	2	6:32:38	41.8520	78.17	72.45	0.00	
3858	2	6:33:36	41.8680	78.18	72.35	0.00	
		Bleed off lubricator.					
3859	2	6:34:33	41.8840	78.16	72.26	0.00	

[MILTON M. COOKE COMPANY]

ECO Solutions, Inc.
Hoechst Celanese Chemical Group, Inc.
MIT/Falloff Test Well No. 3

APPENDIX I

CORRESPONDENCE

ECO SOLUTIONS, INC.

▶ 10355 Richmond Avenue Suite 250 - Houston, Texas 77042 - (713) 780-1955 FAX (713) 789-5533 ◀

January 5, 1995

Sent via Federal Express

Mr. I.O. Coleman
Hoechst Celanese Chemical Group, Inc.
Bay City Plant
PO Box 509
Bay City, Texas 77404-0509

RE: Proposed Mechanical Integrity Testing
WDW-32 (Well #3)

Dear Mr. Coleman:

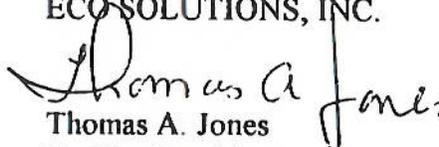
ECO Solutions, Inc. (ECO) has prepared procedures to demonstrate mechanical integrity for WDW-32 (well #3) as requested in the Texas Natural Resource Conservation Commission (TNRCC) letter dated 12/27/94. The attached plan calls for a three (3) part test which includes an annulus pressure test (APT), radioactive tracer survey (RAT) and pressure falloff test.

The type of fluid to be used during the falloff testing should also be considered. Typically nonhazardous waste is used during the falloff testing to avoid the cost of hauling brine to the well. However, there is some question as to whether or not waste can be injected at this time since the well was previously brined in and mechanical integrity is almost three months (3) overdue. I suggest that confirmation with the TNRCC be obtained prior to injecting nonhazardous waste for the falloff testing.

If you have any questions regarding this matter, please contact either Wes Smith or myself at our Houston office.

Sincerely,

ECO SOLUTIONS, INC.


Thomas A. Jones
Sr. Vice President

cc: Ray Horton, (HCCG)
W.E. Dentler (HCCG)
Wes Smith, ECO

John Hall, *Chairman*
Pam Reed, *Commissioner*
Peggy Garner, *Commissioner*
Dan Pearson, *Executive Director*



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

February 22, 1995

Mr. I. O. Coleman, Jr.
Hoechst Celanese, Chemical Group
Bay City Plant
P.O. Box 509
Highway 3057
Bay City, Texas 77404-0509

Re: Approval of Mechanical Integrity Testing for WDW-32

Dear Mr. Coleman:

This is to acknowledge our receipt of the report dated January 31, 1995, on the mechanical integrity (MI) test of the above referenced well which was conducted on January 18-20, 1995. TNRCC staff was present during the MI test and it has been determined that MI of the well was confirmed on the above referenced dates in accordance with 30 TAC §331.4. Please keep a copy of this letter with the well records so that it may be reviewed by well inspectors.

If you have any questions, or if we may be of further assistance, please call me at (512) 239-6196, Mail Code MC-131.

Sincerely,

A handwritten signature in cursive script that reads "Jim L. Boswell".

Jim L. Boswell, Permit Coordinator
Underground Injection Control Team
UIC, Uranium and Radioactive Waste Section
Industrial and Hazardous Waste Division

cc: Brian Graves, EPA Region VI, Dallas
TNRCC Region 12, Houston

~~Environmental Services, Inc., 10339 Richmond~~, Suite 250, Houston, 77042

Chemical Group
Hoechst Celanese Corporation
Bay City Plant
PO Box 509
Highway 3057
Bay City, TX 77404-0509

September 19, 1995
IOC-067-95

CERTIFIED MAIL

Mr. Ben K. Knape - Head
UIC Team
UIC, Uranium and Radioactive Waste Section
Industrial and Hazardous Waste Division
Texas Natural Resource Conservation Commission
P. O. Box 13087
Austin, Texas 78711-3087

Subject: WDW-32 (PLANT WELL NUMBER 3)
PROPOSED MECHANICAL INTEGRITY TEST PROCEDURES
HOECHST CELANESE CHEMICAL GROUP, INC.
BAY CITY PLANT, BAY CITY, TEXAS

Dear Mr. Knape:

Enclosed herewith as Addendum I are the proposed Mechanical Integrity Test (MIT) Procedures to demonstrate mechanical integrity of WDW-32 (Plant Well No. 3) which are provided for your review and approval. Our plan is to conduct the testing during the week of October 23, 1995.

At present, we have significantly more capacity than is required for current plant operations and since there is a high probability that WDW-32 may not be placed back into service prior to plug and abandonment activities (tentatively schedule in 1996), we also request approval that this 1995 demonstration of mechanical integrity satisfy regulatory requirements as they apply to the plug and abandonment of this well.

We appreciate in advance your consideration, review and approval of the above requests.

Please don't hesitate to contact me at 409/241-4197 or Mr. H. R. Horton at 409/241-4076 if you have questions concerning this matter.

Very truly yours,

I. O. Coleman, Jr. / cp

I. O. Coleman, Jr.
Staff Environmental Chemist

IOC/cjs
attachment

cc: Mr. Charles J. Green, Geologist
Underground Injection Control Team
Texas Natural Resource Conservation Commission
P. O. Box 13087
Austin, Texas 78711-13087

Mr. Mike Mishra
Underground Injection Control Team
TNRCC
P. O. Box 13087
Austin, Texas 78711-13087

Mr. Larry Walker
Underground Injection Control Team
TNRCC
P. O. Box 13087
Austin, Texas 78711-13087

Mr. Phil Dellinger
UIC State Programs Section (6W-SU)
U. S. Environmental Protection Agency
1445 Ross Ave., Suite 1200
Dallas, TX 75202-2733

cc: w/o attachment

C. J. Griffith
W. E. Dentler
B. R. Hightower
R. S. O'Neal

w/attachment

A. Conley-Pitchell - Bridgewater
G. J. McCarthy
P. H. Richardson
R. J. Johnston
H. R. Horton
Environmental File Nos.: 202.3 and 203.13

Mr. Tom Jones
ECO Solutions
10333 Richmond Avenue
Suite 250
Houston, TX 77042

Mr. Bob Hall
ECO Solutions
10333 Richmond Avenue
Suite 250
Houston, TX 77042

ADDENDUM I

PROPOSED PROCEDURE TO
DEMONSTRATE MECHANICAL
INTEGRITY

FOR WDW-32 (WELL #3)

HOECHST CELANESE CHEMICAL GROUP, INC.
BAY CITY FACILITY

PROPOSED PROCEDURE TO
DEMONSTRATE MECHANICAL INTEGRITY
FOR WDW-32 (WELL #3)

The following step-by-step proposed procedures were developed in accordance with the Underground Injection Control (UIC) and the Hazardous Waste Disposal Injection Restrictions (HWDIR) Programs as issued by the United States Environmental Protection Agency (US EPA) and promulgated by the Texas Natural Resource Conservation Commission (TNRCC).

Except where noted, all steps of this procedure will be performed by ECO's personnel.

- 1) **Request and secure approval from the TNRCC to use nonhazardous effluent for pressure fall-off testing. (ECO/HCCG)**
- 2) **Prepare well for MIT. (HCCG)**
 - * Check wellhead valves to insure that special fittings can be easily installed during the MIT. ECO requests that 2" NPT connections be available on the tubing outlets.
 - * Since wireline services will be run while injecting into the well, a full opening valve (minimum 2" inside diameter) will be required on top the wellhead above the inlet effluent flowline.
 - * HCCG's personnel will maintain proper annulus pressure while conducting the RAT survey. HCCG will provide historical petition data on Well #3 for ECO's personnel for use in the report preparation.
- 3) **Perform bottom hole pressure fall-off and static bottom hole pressure (BHP) survey. (ECO/HCCG)**
 - * HCCG is to inject non-hazardous effluent into Well #3 at a stable rate for a minimum of four days prior to performing the falloff test. HCCG will furnish non-hazardous fluid and pump. All other injection wells should be operated at a constant rate, or shut-in for a period extending from one (1) day prior to the start of the fall-off testing to the end of the 48-hour shut-in period.

ECO Solutions, Inc.

Environmental Consulting and Technical Services

- * Move in and rig up wireline unit to run bottom hole pressure falloff test with surface readout Panex bottom hole pressure gauges.
 - * Go in the hole with bottom hole pressure gauges to packer depth, or to the depth previously performed BHP surveys have been conducted.
 - * Maintain constant injection rates prior to shutting well in. Secure a representative sample of the effluent pumped into Well #3.
 - * Shut-in well. Leave well shut-in for ± 48 hours, or until tubing pressure stabilizes, to obtain pressure decay data. Data obtained at the end of this test will provide static BHP.
- 4) **Perform annulus/tubing differential pressure test (APT). (HCCG/ECO)**
- * Rig up digital pressure transducer units and install onto the annulus and tubing outlet.
 - * HCCG's personnel will adjust annulus pressure to 1000 psi pressure above the tubing pressure.
 - * Monitor annulus/tubing pressures for a minimum period of 30 minutes. Maximum allowable differential pressure change during the APT is 5% of the maximum differential test pressures.
 - * Rig down transducer pressure units.
- 5) **Run radioactive tracer survey. (ECO)**
- * Establish ± 50 gpm injection rates utilizing HCCG's injection pump and non-hazardous effluent.
 - * Rig up gamma ray (G/R) detector, casing collar locator (CCL) and radioactive tracer (R/A) ejector tool. Ejector contains ± 10 millicuries of Iodine "131" radioactive solution.
 - * Continue pumping effluent into the well at a rate of ± 50 gpm.
 - * Run G/R base log from PBTD (tag bottom) to $\pm 300'$ above the packer (@ 3,192'), or up to $\pm 2,900'$. Make short repeat G/R run to prove tool repeatability.
 - * Run one (1) five-minute statistical log at a depth of 3,295'.

ECO Solutions, Inc.

Environmental Consulting and Technical Services

- * Release first R/A slug inside tubing $\pm 300'$ above the packer while pumping effluent down the tubing at an injection rate of ± 50 gpm. Make multiple recorded passes following the R/A slug (1) down the tubing, (2) into the borehole and (3) into the disposal zone until the R/A slug virtually disappears and cannot be distinguished from the normal background G/R radioactivity. Repeat multiple pass survey.
- * Release second R/A slug from tool at $\pm 20'$ above top perforation, or at $\pm 3,295'$ and hold stationary. Place recorder on time-drive sequence. Logging time will be predetermined based on actual injection rate as agreed upon by the TNRCC inspector.
- * Repeat stationary sequence test above.
- * Run final base G/R from PBTD to $\pm 300'$ above the packer (same interval as original base G/R log) to verify that all R/A materials have been flushed into the disposal zone and that no fluid is migrating up behind the casing string.
- * Pull out of the hole and rig down wireline..
- 6) MIT field work is completed on Well #3. (ECO)
 - * Rig down all rental equipment and move off the location.
 - * Advise TNRCC of test results and that well is, or is not, acceptable for injection service. If MIT fails submit a workover procedure to the TNRCC. Note: This latter work is not included in the scope of this project.
 - * If Well #3 has successfully passed all MIT tests, then return the well to injection service or temporarily abandon following TNRCC guidelines.
- 7) Submit MIT report. (ECO/HCCG)
 - * Prepare a draft copy of the MIT report detailing the demonstration of MIT on WDW-32 (Well #3).
 - * Submit draft report to HCCG for comments and approval.
 - * Modify the MIT report as per HCCG's comments and submit copies of final MIT report to HCCG. HCCG personnel will transmit final MIT report to the TNRCC.
 - * Receive TNRCC's acceptance letter pertaining to the MIT report.
- 8) Mechanical Integrity Testing Complete.

10/13/95

CC: IOC
CC: Ray Horton

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Dan Pearson, *Executive Director*



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

October 9, 1995

Mr. I. O. Coleman, Jr.
Hoechst Celanese Corporation
Bay City Plant
P.O. Box 509
Highway 3057
Bay City, TX 77404-0509

RE: Approval of 1995 Mechanical Integrity Testing Procedures for TNRCC Permit No. WDW-32

Dear Mr. Coleman:

This is to approve the proposed mechanical integrity testing (MIT) procedures detailed in your letter of September 19, 1995 for the above referenced well. Please note that all tests in the MIT will be required to be performed in accordance with the "T.N.R.C.C. Basic Guidelines for Mechanical Integrity Testing," revised July 20, 1994.

Pursuant to 30 TAC §331.65(b)(4), within 30 days of test completion, please submit a report to the executive director containing both test data and interpretation of the results.

Please note that a complete mechanical integrity test is required prior to starting the plugging and abandonment (P&A) of a well, in accordance with 30 TAC §331.46 (a) and (b), and the plugging provision in the permit. Therefore, the TNRCC cannot grant your request to use this 1995 MIT demonstration to satisfy the P&A requirement of this well. Please schedule another MIT prior to conducting the P&A in 1996 and submit the procedures for our review and approval.

Questions regarding this matter should be directed to me at 512/239-6635, Mail Code MC 131.

Sincerely,

A handwritten signature in cursive script that reads "Hong Guo".

Hong Guo, P.E.
Underground Injection Control Team
UIC, Uranium, and Radioactive Waste Section
Industrial and Hazardous waste Division

HG/hg/jmm

cc: Brian Graves, EPA Region VI

Interoffice Memo

Hoechst Celanese

Date: October 18, 1995

HRH-266-95

To: As Listed

From: H. R. Horton

Dept/Location: Bay City Plant

Dept/Location: Maintenance Engineering

Subject: Effluent Well Mechanical Integrity
Testing Schedule

N. C. Stafford
W. E. Dentler
R. S. O'Neal
P. H. Richardson
B. L. Fritz
B. G. Campbell
K. W. Wilkerson
W. G. Cornman
C. J. Griffith
B. R. Hightower
I. O. Coleman

Wes Smith - ECO Solutions, Inc.

R. L. Alaniz - ECO Solutions, Inc.

Injection fall-off testing of the waste injection well WDW-32 (No. 3) well will be performed October 20 through October 26, 1996, as approved by the Texas Natural Resource Conservation Commission. Attached is a tentative schedule for this test.


H. R. Horton

lrk
attachment

File: 11.13.0.0

**WDW-32 EFFLUENT WELL
MECHANICAL INTEGRITY TESTING
SCHEDULE**

October 20	6:00 p.m.	Flow rate to #3 Well should be held constant (unchanging) at 150 gpm until shut in on Wednesday, October 25
		Record flow rate every 4 hours.
		Take samples (one every 8 hours) of effluent to #3 Well during this period and check viscosity and specific gravity (at 120 F).
		Shut in Wells #1A and #4.
October 21		Maintain constant (unchanging) flow to #3 Well taking samples every 8 hours.
October 22		Same
October 23	7:30 a.m.	Maintain constant flow to #3 Well taking samples every 8 hours.
October 24	7:30 a.m.	Maintain constant flow to #3 Well taking samples every 8 hours.
		Move in and rig up logging unit on #3 Well. Run surface readout bottom hole pressure gauge into well.
		Monitor bottom hole pressure fall off with surface readout bottom hole pressure gauges.
October 25	7:30 a.m.	Shut in #3 Well.
		Monitor bottom hole pressure fall off with surface readout bottom hole pressure gauges.
October 26	7:30 a.m.	If bottom hole pressure has stabilized, pull out of the hole with bottom hole pressure tools making gradient stops at 500' intervals. Keep #3 Well shut in.
	12:00 p.m.	Conduct annulus pressure test on #3 Well. Put #1A Well back in service.
	2:00 p.m.	Start radio active tracer survey of #3 Well.
	6:00 - 7:00 p.m.	Complete MIT of #3 Well and put well back in service.